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15 May 2014

Ms Annette Lam  
Clerk to Panel  
Legislative Council Panel on Commerce and Industry  
Legislative Council Complex  
1 Legislative Council Road  
Central, Hong Kong

Dear Ms Lam,

**Supplementary Information on  
the University-Industry Collaboration Programme (UICP)  
under the Innovation and Technology Fund (ITF)**

I refer to Hon Dennis Kwok's request at the Panel meeting on 18 February 2014 and set out in this letter some information regarding the UICP for Members' reference.

The UICP is a funding programme under the ITF which provides matching grant for collaborative projects undertaken by local companies and universities. The matching is on a 50:50 basis and only cash sponsorship is accepted. There are three schemes under the UICP –

- (a) **Teaching Company Scheme** which aims to foster university-industry partnership by supporting local companies to take on postgraduate students from local universities to assist in propriety R&D work.
- (b) **Matching Grant for Joint Research** which aims to foster private companies to collaborate with universities in propriety R&D projects.

- (c) **Industrial Research Chair Scheme** which aims to assist universities and industry to develop research efforts that respond to industrial needs.

Since the establishment of the ITF in 1999 up to end-February 2014, UICP has approved a total of 249 projects, involving funding amount of \$281.6 million, representing around 3% of the total funding provided by the ITF. The distribution of these projects is as follows –

<b>Scheme</b>	<b>Number of Projects</b>	<b>Funding Amount (\$ million)</b>
Teaching Company Scheme	93	17.5
Matching Grant for Joint Research	153	260.6
Industrial Research Chair Scheme	3	3.6
<b>Total</b>	<b>249</b>	<b>281.6</b>

Projects of UICP are related to many different technology areas, with information technology, manufacturing technology, electrical and electronics and biotechnology being the four most common areas. A breakdown of these projects by their respective technology areas is set out below –

<b>Technology Area</b>	<b>Number of Projects</b>	<b>Funding Amount (\$ million)</b>
Information Technology	61	65.5
Manufacturing Technology	50	31.1
Electrical and Electronics	44	45.6
Biotechnology	43	73.4
Materials Science	17	9.2
Chinese Medicines	16	28.2
Environmental Technology	13	22.2
Nanotechnology	4	6.0
Others	1	0.3
<b>Total</b>	<b>249</b>	<b>281.6</b>

In the recent five years, UICP has approved a total of 65 projects, involving funding amount of \$79.8 million. The number of projects and funding amount are shown in the table below –

<b>Year</b>	<b>Number of Projects</b>	<b>Funding Amount (\$ million)</b>
2009	4	3.0
2010	11	12.0
2011	13	14.0
2012	16	26.7
2013	21	24.0
Total	65	79.8

We have provided in **Annex** a list of approved projects in the recent three years for Members' reference, including their brief information such as project references, titles, funding amount and technology areas. Such information is also available at the ITF website: <http://www.itf.gov.hk>.

Under the present funding arrangement of the UICP, the intellectual property rights arising from UICP projects belong to the applicant companies. Hence, our prevailing practice is not to disclose details of these projects, which are proprietary in nature and may involve commercially sensitive information. However, in order to provide Members with examples of these projects which have made good progress in commercialisation, we have sought the consent of a number of applicant companies and collaborating universities to disclose the relevant information, as follows–

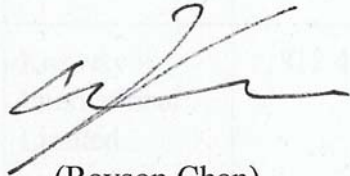
- (a) The Hong Kong Polytechnic University has collaborated with a biotechnology company to develop a novel agent for treatment of human cancers through a new production technique for a human recombinant Arginase enzyme at low cost to improve the efficacy of the enzyme in treating liver cancer. This is the first novel drug developed in Hong Kong to obtain Investigational New Drug approval from the United States Food and Drug Administration to commence human clinical studies in the United States. Clinical trials of the Arginase are ongoing in the United States and Hong Kong.
- (b) The University of Hong Kong is collaborating with a digital technology company to develop an innovative technology for generating high-quality 3D/multiview contents from conventional

2D or stereo inputs, which will strengthen the competitiveness of the company in capturing the emerging market in 3D/multiview technologies.

- (c) The Hong Kong University of Science and Technology is collaborating with another digital technology company to enhance and embed steaming technology into internet servers and form a deployment-ready Content Delivery Network supporting applications in mobile devices (both Android and iOS systems) and personal computers. A major telecom company in the Mainland and a major TV broadcaster in Hong Kong are exploring with the company opportunities for commercialisation of the technology.

I should be grateful if you would relay our response to Panel Members for their reference.

Yours sincerely,



(Rayson Chan)

for Commissioner for Innovation and Technology

Encl.

## UICP Projects Approved in 2011-2013

Ref No.	Project Title	Collaborating University	Company	Approved Funding (\$'000)	Technology Area
<i>Matching Grant for Joint Research</i>					
UIM/199	Development of Naturally-occurring Splice Variants of Aminoacyl-tRNA synthetases (AARS) for New Protein Drugs ("Biologics")	The Hong Kong University of Science and Technology	Pangu BioPharma Limited	1,782.5	Biotechnology
UIM/200	A New Environment-friendly Laundry Method: Develop a Chemical-free Dual Function Process for Sterilization and Rapid Drying of Contaminated Textiles	The University of Hong Kong	Fong's National Engineering Company Limited	1,078.815	Manufacturing Technology
UIM/203	Rapid Screening Platforms for Modulators of Melanogenesis and Cytoprotectants Using Human Skin Equivalent Models	Hong Kong Baptist University	Konway International Limited	812.475	Biotechnology
UIM/204	Integrated Decision Support System for Dynamic Vehicle-Dispatching and Scheduling with Real-time Information under Operation Uncertainty	The Hong Kong University of Science and Technology	Eternal East Cross Border Coach Management Limited	1,327.1	Information Technology

<b>Ref No.</b>	<b>Project Title</b>	<b>Collaborating University</b>	<b>Company</b>	<b>Approved Funding (\$'000)</b>	<b>Technology Area</b>
UIM/205	Development of a Novel Non-coding RNA-based Blood Test for Early Detection, Prognostication and/or Treatment Monitoring of Breast Cancer	The University of Hong Kong	United Ally Research Limited	1,159.529	Biotechnology
UIM/206	A High Performance Computing Solution to Enable Bioinformatics Research	The Chinese University of Hong Kong	Cluster Technology Limited	571.09	Biotechnology
UIM/207	Human Motion-Rhythmic Dance Detection in iMusicStation	The Hong Kong Polytechnic University	iMusictech Limited	2,937.503	Information Technology
UIM/208	Preclinical Evaluation and Mechanistic Study of ZK002, a Candidate Anti-angiogenic and Anti-cancer drug	Hong Kong Baptist University	Lee's Pharmaceutical (Hong Kong) Limited	1,950	Biotechnology
UIM/210	A Computer-Aided Design System for Jewelry Design	The Hong Kong University of Science and Technology	JewelCAD Pro Limited	1,598.5	Manufacturing Technology
UIM/212	Therapeutic Effect of Human Umbilical Cord Mesenchymal Stem Cells on Acute Lung Injury Caused by Severe Influenza H5N1 Virus Infection	The University of Hong Kong	Healthbaby Biotech (Hong Kong) Company Limited	1,356.588	Biotechnology

<b>Ref No.</b>	<b>Project Title</b>	<b>Collaborating University</b>	<b>Company</b>	<b>Approved Funding (\$'000)</b>	<b>Technology Area</b>
UIM/213	Scolioscan: Radiation-Free Scoliosis Assessment System using 3D Ultrasound Imaging	The Hong Kong Polytechnic University	Wisdom Able Limited	2,922.15	Electrical and Electronics
UIM/214	Drug Discovery and Development from Traditional Chinese Medicine against a Variety of Human Diseases and Disorders	The Hong Kong University of Science and Technology	Herbcopoeia Biotech Limited	1,900	Biotechnology
UIM/215	Development of Antiviral Agents based on Small RNA Containing Unique Motif	The University of Hong Kong	Xiangxue Group (Hong Kong) Company Limited	3,699.55	Biotechnology
UIM/216	Novel Top Emission OLED Devices and Materials for AMOLED Display	Hong Kong Baptist University	Fordley Hong Kong Limited	2,313.8	Nanotechnology
UIM/217	Enhanced Durability and Mechanical Performance of Structural Steel Members Using an Innovative Galvanization Process	The Hong Kong Polytechnic University	Yau Sang Galvanizers (Hot-Dip) Company Limited	845.825	Materials Science
UIM/218	Characterization of Innovative Drug Leads for Neurodegenerative Diseases and Platforms Targeting Neurogenesis	The Hong Kong University of Science and Technology	Morningside Life Science Limited	3,450	Biotechnology
UIM/219	Risk Management System for Low Latency Trading	The Hong Kong Polytechnic University	Frontier Research and Technology Limited	966	Information Technology

<b>Ref No.</b>	<b>Project Title</b>	<b>Collaborating University</b>	<b>Company</b>	<b>Approved Funding (\$'000)</b>	<b>Technology Area</b>
UIM/220	Enhanced Functional Sapphire Substrate for LED	Hong Kong Baptist University	Meco Technology Limited	517.27	Materials Science
UIM/221	Efficacy of Reversine-2 and Bioactive Plant and Animal Extracts Containing Reversine-2-like Small Molecules as Inhibitors of Liver Fibrosis	The Chinese University of Hong Kong	Zhang Long Industrial Company Limited	1,169.888	Biotechnology
UIM/223	The Development and Demonstration of a Battery Management System for Li-ion Batteries for e-mobility	The Hong Kong University of Science and Technology	EVB Technology (HK) Limited	4,249.02	Electrical and Electronics
UIM/224	An eLearning Application using Automated Ontology Management	The Hong Kong Polytechnic University	Quantum Cybertech Limited	2,499.962	Information Technology
UIM/226	Development of the High-precision Multidirectional Auto Tracking System for Concentrating Photovoltaics (CPV)	The Hong Kong Polytechnic University	Opel Solar Asia Company Limited	600	Environmental Technology
UIM/228	Re-engineering Traditional Chinese Herbal Formulas for the Treatment of Alzheimer's Disease	The Hong Kong University of Science and Technology	Sanofi-Aventis Hong Kong Limited	1,880	Biotechnology
UIM/230	Development of Highly Effective siRNA for Potential RNAi Targets and siRNA Delivery System for Cervical Cancer Treatment	The Chinese University of Hong Kong	Hong Kong Bayie Biotech Company Limited	1,098.836	Biotechnology



<b>Ref No.</b>	<b>Project Title</b>	<b>Collaborating University</b>	<b>Company</b>	<b>Approved Funding (\$'000)</b>	<b>Technology Area</b>
UIM/231	Research and Development of High-power LED Street Lighting Systems based on Passive LED Drivers	The University of Hong Kong	United Technologies Global Limited	244.55	Electrical and Electronics
UIM/233	Development of Antiviral Peptides against Infections of Influenza Virus and Other Respiratory Viruses	The University of Hong Kong	Xiangxue Group (Hong Kong) Company Limited	989	Biotechnology
UIM/234	Development of a Novel Stealth Adenovirus as Superior Vector with Higher Efficacy and Lower Toxicity for Melanoma Gene Therapy	The Chinese University of Hong Kong	C K YEUNG WORLDWIDE LIMITED	448.498	Biotechnology
UIM/235	Knowledge-Based Building Information Modeling System	The Hong Kong University of Science and Technology	Arup China Limited	737.15	Information Technology
UIM/236	Development of a Highly Sensitive eNano Biosensor for Real-time Drug Detection in Saliva	The Hong Kong University of Science and Technology	eNano Health Limited	833.606	Nanotechnology
UIM/237	Development of Osmium-based Compounds as Anti-Cancer Drugs	City University of Hong Kong	CK Life Sciences Development Limited	970.945	Biotechnology
UIM/238	Standardization of the Vinegar for Processing Chinese Materia Medica	Hong Kong Baptist University	Pat Chun International Limited	1,294.325	Chinese Medicine

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UIM/239	A Software Tool with a Strategic Approach for Identifying Critical Transport Infrastructures and Building Resilience of Urban Transport Systems	The University of Hong Kong	Arup China Limited	280.159	Logistics and Supply Chain Management
UIM/240	Content Generation and Processing Technologies for 3D/Multiview Images and Videos	The University of Hong Kong	Marvel Digital Limited	2,064.48	Electrical and Electronics
UIM/241	Die Attach Materials with High Thermal Performance for LED Solid State Lighting	The Hong Kong University of Science and Technology	Philips Electronics Hong Kong Limited	1,399.55	Nanotechnology
UIM/242	Smart Colloid-based Damping System for Automotive Industry Application	The Hong Kong University of Science and Technology	PI Electronics (Hong Kong) Limited	2,375.325	Manufacturing Technology
UIM/243	Advanced Control Architecture and Algorithms for Automated Immunoassay Analyzer	The Hong Kong University of Science and Technology	Bio-Sense Biomedical Equipment Limited	1,092.5	Manufacturing Technology
UIM/245	DC Distribution for Future and Environmental City Development	The Hong Kong Polytechnic University	JL Ecopro (EE) Technology HK Limited	999.999	Electrical and Electronics
UIM/246	A Next-generation Content Delivery Cloud for Live and Interactive Video Streaming	The Hong Kong University of Science and Technology	Mei Ah Digital Technology Limited	4000	Information Technology

<b>Ref No.</b>	<b>Project Title</b>	<b>Collaborating University</b>	<b>Company</b>	<b>Approved Funding (\$'000)</b>	<b>Technology Area</b>
UIM/249	Development of Single Chip LED Matrix Display Technology	The Hong Kong University of Science and Technology	3C Limited	1,667.5	Electrical and Electronics
UIM/250	Cross-VM Covert Channel Risk Assessment and Mitigation in Public Clouds	City University of Hong Kong	Intellectual Ventures Hong Kong Limited	695.75	Information Technology

<b>Ref No.</b>	<b>Project Title</b>	<b>Collaborating University</b>	<b>Company</b>	<b>Approved Funding (\$'000)</b>	<b>Technology Area</b>
<i>Teaching Company Scheme</i>					
UIT/109	Development of an Intelligent Workflow Mining System for Sharing Information in Business Operations in the Garment Trading Industry	The Hong Kong Polytechnic University	Sing Yang Trading Limited	165.2	Information Technology
UIT/110	Transparent Conducting Oxides for Dynamic Information Display Application	Hong Kong Baptist University	Sigma Technology Holdings Limited	329	Materials Science
UIT/111	In-Process Visualisation for Deformation Diagnosis in Hydroforming	The Hong Kong Polytechnic University	King Siu Metal Product Factory Limited	155.6	Manufacturing Technology
UIT/112	Design of a New Molding Process for Making Seamless Hollow Plastic Parts	The Hong Kong Polytechnic University	Mattel (HK) Limited	165.6	Manufacturing Technology
UIT/113	RFID-based Location Tracking System Using a Peer-to-Peer Network Architecture	The Hong Kong Polytechnic University	Hong Kong RFID Limited	165.6	Information Technology
UIT/115	Estimating Noise Distribution in a 3D Landscape using Real Time Measured Traffic Data	The Chinese University of Hong Kong	EDMS Tech Limited	168	Environmental Technology
UIT/116	Algorithm for Bus Arrival Time Prediction from Crowd-source Smart Phone Data	The Hong Kong Polytechnic University	Infratrans Consultancy Limited	165.6	Information Technology

<b>Ref No.</b>	<b>Project Title</b>	<b>Collaborating University</b>	<b>Company</b>	<b>Approved Funding (\$'000)</b>	<b>Technology Area</b>
UIT/117	Low-cost On-board Vision/IMU Combined Intelligent Navigation System	The Hong Kong University of Science and Technology	iFlight Technology Company Limited	360	Information Technology
UIT/118	Detecting and Evaluating Opinion Influencers in Online Social Media	The Hong Kong Polytechnic University	K-Matrix Digital Intelligence Limited	165.6	Information Technology
UIT/119	Design of an Intelligent System for Pearl-nucleus Grading and Identification	The Hong Kong Polytechnic University	Artemise & Company Limited	170.4	Manufacturing Technology