

Research Assessment Exercise 2020
Impact Overview Statement

University: City University of Hong Kong |

Unit of Assessment (UoA): 10 - earth sciences (incl. oceanography, meteorology) and other physical sciences (incl. environmental science) |

Total number of eligible staff of the university in the UoA: 6 |

(1) Context

The UoA as part of the School of Energy and Environment delivers output to a wide range of non-academic user groups presenting our research output in a way that meets environmental and societal needs. We engage with various sections of Hong Kong government agencies; given our focus on the atmosphere, these include NGOs, the IPCC, the Environmental Protection Department, the Hong Kong Observatory and the Hong Kong Productivity Council, with an average of 6 partners to each faculty member. In terms of the indoor environment, we have worked with managers of commercial buildings such as the Sino Group and ATAL. Wind and wave climate is another important aspect of research external organizations such as the Sino Group, AECOM, ARUP and Black and Veitch have benefited from. Recently we have signed a strategic partnership with Everbright International, a mainland conglomerate with subsidiaries listed on HK stock exchange and elsewhere. |

(2) Approach to impact

The School collaborates with many industrial and professional organizations under the direction of an external advisory group which meets each year. The advisory group is wide-ranging including representation from Hong Kong government agencies and industry : Ms. Shirley ALGIRE (The Hong Kong Jockey Club), Mr. Elvis AU (Environmental Protection Department), Dr. Vincent CHENG (Ove Arup & Partners), Mr. Raymond C.L. FONG (Hong Kong Productivity Council), Mr. LAI Hon Chung Harry (Electrical and Mechanical Services, The Government of the Hong Kong), Ir. Ricky LEUNG (Airport Authority Hong Kong), Dr. Jeanne NG (CLP Hong Kong Limited), Ir. Otto L. T. POON (ATAL Analogue Group of Companies), Mr. Chi Ming SHUN (Director, Hong Kong Observatory), Mr. Ivan TONG (Climate Change and Sustainability Services, Ernst & Young) and Mr. Peter WONG (Hong Kong and China Gas Company Limited).

Communication with government and industry stakeholders is enhanced through an Annual Dinner hosted by the School of Energy and Environment. The most recent (5 October 2018) was attended by 110 stakeholders. Verbal and poster presentations are augmented by discussions over the meal. Attendees are seated at small tables of eight people, where special care is given to ensure there are areas of overlapping interest. Additionally, as mentioned in our Research Environment submission, we have been actively engaged in initiating collaborative research with 18 industrial partners with interests in Hong Kong, thus ensuring our research output has greater impact.

The faculty members gave many public lectures, an annual average of 7 per capita. We also communicate directly with local end-users in our Tech Talks, typically held on a Saturday once each semester. These have been supported by the Hong Kong Institute of Engineers and the Chartered Institute of Water and Environmental Management. Two recent SEE Tech Talks were Waste Management and Treatment (15th December 2018) and Building-related

Technologies (4th May 2019). We also visit government agencies and professional societies (such as the Hong Kong Institution of Engineers) as part of our effort to maintain and foster collaborative research. Prof. Johnny CHAN has organized conferences of the Climate Change Group. There are also smaller, more specialist initiatives examining specific topics that have attracted external stakeholder groups, such as air pollution along bus routes with a dozen external participants (7 June 2018). Less directly, we are able to use the University's Communications and Public Relations Office to increase the visibility of our output in Hong Kong.

The success of this approach can be measured in terms of our success with gaining five Environment and Conservation Fund grants in partnership with the HK Environmental Protection Department and a widening range of grants that derive from our contacts in China

(3) Strategy and plans

Our strategies for enhancing impact are 1) to increase communication with industrial and government stakeholders 2) to identify research topics of mutual interests and 3) to gain funding through collaboration. The annual and promotion reviews increasingly focus on the quality and impact of individual faculty members' research. We have recently used internal funding to encourage broad-ranging projects that link faculty interests. This enables us to lean in the development of larger-scale research applications that relate to the development of smart and healthy cities, which requires the application of scientific knowledge and innovative technologies. We are aware of the need to facilitate this through contacts with policy makers and business and industry to get them on board with the importance of our outcome oriented research. Our research adopts a systems approach in the development of innovative science and engineering solutions, and provides empirical evidence and insight from the evaluation of these solutions to understand how they can be successfully applied to cities. We engage with stakeholders in industry and government as we seek to inform and critique policy and press for practical changes in the areas of air and water pollution, food waste, energy efficiency and low-carbon smart and healthy cities. Our research students benefit from a collaborative and supportive atmosphere, which enables them to gain employment in industry in addition to the traditional path to academia.

(4) Relationship to case studies

The Guy Carpenter Asia-Pacific Climate Impact Centre (GCACIC) was established in June 2008 through a donation from Guy Carpenter and Company and matching funding from the Universities Grants Committee of the Hong Kong Special Administrative Region Government and City University of Hong Kong. The mission of the Centre is to become a leading centre in the Asia-Pacific region in research on climate-related risks, particularly those affecting the region. The research of the Centre focuses on enhancing the understanding of climate-related risks occurring in the Asia-Pacific region and catastrophic risk throughout the region, as well as making predictions of the occurrence of climate-related threats in the region. This has contributed to our impact case study: *Climate, tropical cyclones and reinsuring natural catastrophes*. The work within the Centre has not only trained our own students, but also allowed visitors from the insurance industry to spend time working in the UoA. Most recently Dr. Shirley Qin, from the Guy Carpenter office in Sydney, Australia.