

THE EDUCATION UNIVERSITY OF HONG KONG
FACULTY OF LIBERAL ARTS AND SOCIAL SCIENCES

Research Output/Impact/Knowledge Transfer Prize
for the Dean's Research Fund 2019/20

**Brief Introduction of Awardee's
Research/KT Publication/Study/Output and Future Research/KT Development**

Awardee (Dept): Dr Man Yu Bon, Assistant Professor (SES)
Publication Title/KT project: Health risk assessments based on polycyclic aromatic hydrocarbons in freshwater fish cultured using food waste-based diets

A. *Briefly introduce your research/KT publication/study/output for which you have received the prize.*

This publication was derived from the project: Upgrading food wastes as feeds for inland fish culture in South China (ITS/174/14FX, HK\$3,792,010) funded by the Innovation and Technology Commission (Innovation and Technology Fund).

In this project, we have collaborated with our industry partner (The South China Reborn Resources (ZhongShan) Co. Ltd.), turning food waste into fish feed pellets for culturing quality freshwater fish. This paper is related to the upgrade of food wastes by adding feed supplements (Chinese medicinal herbs, digestive enzyme and yeast), for culturing Nile tilapia (*Oreochromis niloticus*) and jade perch (*Scortum barcoo*). Results showed that both fish species fed food waste-based pellets, resulted in an acceptable levels of an organic pollutant: polycyclic aromatic hydrocarbons (PAHs), when compared with those fed commercial feed pellets. The field-scale feeding trials further demonstrated that such food waste-based feed pellets can produce safe and quality freshwater fish at a lower cost. Application of this technology in Hong Kong will enhance sustainable fish farming by recycling the residual protein and nutrients contained in food waste, and ease its disposal pressure in landfills.

B. *How you used/will use your prize and perhaps its usefulness to your research/KT development?*

The funding will be used for conducting research on human health risk assessment.

C. Expected research/KT outcomes/outputs/impacts arising from this prize.

It is expected that a SCI paper can be published. It is also hoped to generate preliminary data to strengthen an application of Research Grants Council - General Research Fund.