

THE CHINESE UNIVERSITY OF HONG KONG

Micro-Module Courseware Development Grant

Scheme 1: Basic Scheme

Interim Report (2017-18)

Report due 31 May 2018.

Please return by email to mmcd@cuhk.edu.hk

PART I

Project title: Using Flipped Classroom with recent Research Discovery to Enhance Interactive Teaching and Learning in Protein Trafficking

Principal supervisor: Prof. Jiang Liwen

Department / Unit: School of Life Sciences

Project duration: From December 2017 to October 2018

Date report submitted: 31 May 2018

1. Project objectives

Is the project on track to meet its objectives?

Have the objectives been changed as a result of the experience of working on your MMCDG project?

The original project objective is to develop micro-modules from our recent research findings published in prestigious international journals that are related to protein trafficking in both animal and plant. The micro-modules will explain the background information and the research data in the publications.

The project follows its original objectives. 8 Micro-modules have been produced by Prof. Jiang and the first authors of the publications collaboratively to meet the objectives. The videos and related publications have been uploaded to the KEEP Platform as well as the Blackboard Platform for students' self-learning, which will be put into use for teaching the course CMBI4001 in September 2018.

2. Progress on process, outcomes or deliverables

What have been accomplished so far?

Have any obstacles been encountered and what are the remaining tasks to be finished?

Is the project still on time for completion (which includes preparation of the final report) on or before the grant expiry date?

Provide a listing of project outputs to date.

During the first half of the project period, a list of micro-modules derived from our research findings were produced by produced by Prof. Jiang and the first authors of the publications collaboratively.

The list of micro-modules produced is shown below:

1. Plant COPII Paralogs: Functional Redundancy or Diversity?
2. FREE1: a magic plant protein
3. Sorting and targeting mechanisms of Golgi membrane proteins
4. Molecular Mechanism of Tonoplast Protein Targeting
5. Activation of the Rab7 GTPase by the MON1-CCZ1 Complex is Essential for PVC-to-Vacuole Trafficking and Plant Growth in Arabidopsis
6. Fast-suppressor screening of sof mutants in Arabidopsis I
7. Fast-suppressor screening of sof mutants in Arabidopsis II
8. A rapid and efficient method to study the function of crop plant transporters in Arabidopsis

In the proposal, we planned to produce Micro-modules of topic 1-8 in the first six months of the project period. We finished produced 8 Micro-modules by May 2018 according to the schedule. The videos and related research publication have been uploaded to the KEEP online platform as well as the Blackboard Platform for students taking the course *CMBI4001 Protein Trafficking* to view before classes. We will finish producing Micro-modules of topic 9-16 by September and prepare the final report afterwards. The project will be completed on time.

3. Evaluation Plan

Have you altered your evaluation plans?

Does your evaluation indicate that you have achieved your objectives?

We planned to perform surveys after the lectures finished. Students will be questioned about the usefulness of the Micro-modules in explaining the background information and research data in the related publications. Questionnaires will be developed with references to the surveys in our previous related works, and both checking and free-comment questions will be included.

Our evaluation plans have not been changed. The surveys will be distributed to students after the lectures of *CMBI4001 Protein Trafficking* finishes in the end of September or beginning of October 2018.

4. Dissemination Activities (reports, websites, video links, products, etc.)

Provide a listing of dissemination activities to date.

Online videos and related publications are uploaded to the following website.

Blackboard Platform:

https://blackboard.cuhk.edu.hk/ultra/courses/_85411_1/cl/outline

KEEP Platform:

https://edx.keep.edu.hk/courses/course-v1:CUHK+CMBI4001+2017_01/course/