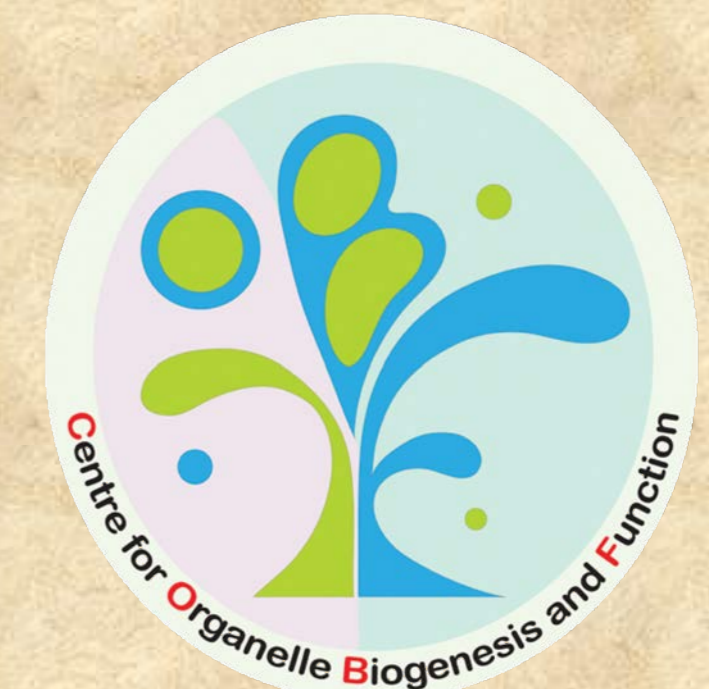




生命科学院



Using Video Learning Modules to Study Cell & Developmental Biology

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Summary

This project aims at developing teaching tools (e.g. video learning modules) for learning Cell & Developmental Biology.

Biology is central to many science related courses e.g. medicine, pharmacy, biochemistry. Therefore, having a good biology concept is crucial. Traditionally most of the biological concepts and theories are taught using biology instructional model and conventional method of teaching. They are abstract and difficult to understand via plain texts, images and models. Therefore, developing a series of vivid videos explaining the abstract concepts and theories would be more effective.

In this project, collections of images or movies in transgenic cell lines, plant and animal cells are edited and organized into self explanatory modules for learning the latest concepts and theories in Cell and Developmental Biology.

Workshop “Perspective in Cell & Development Biology”



This workshop, held on 26 June, 2014, targeted over 150 secondary school students and teachers. Videos produced via this project were shown to educate them on the latest Cell & Developmental Biology techniques, concepts and theories.



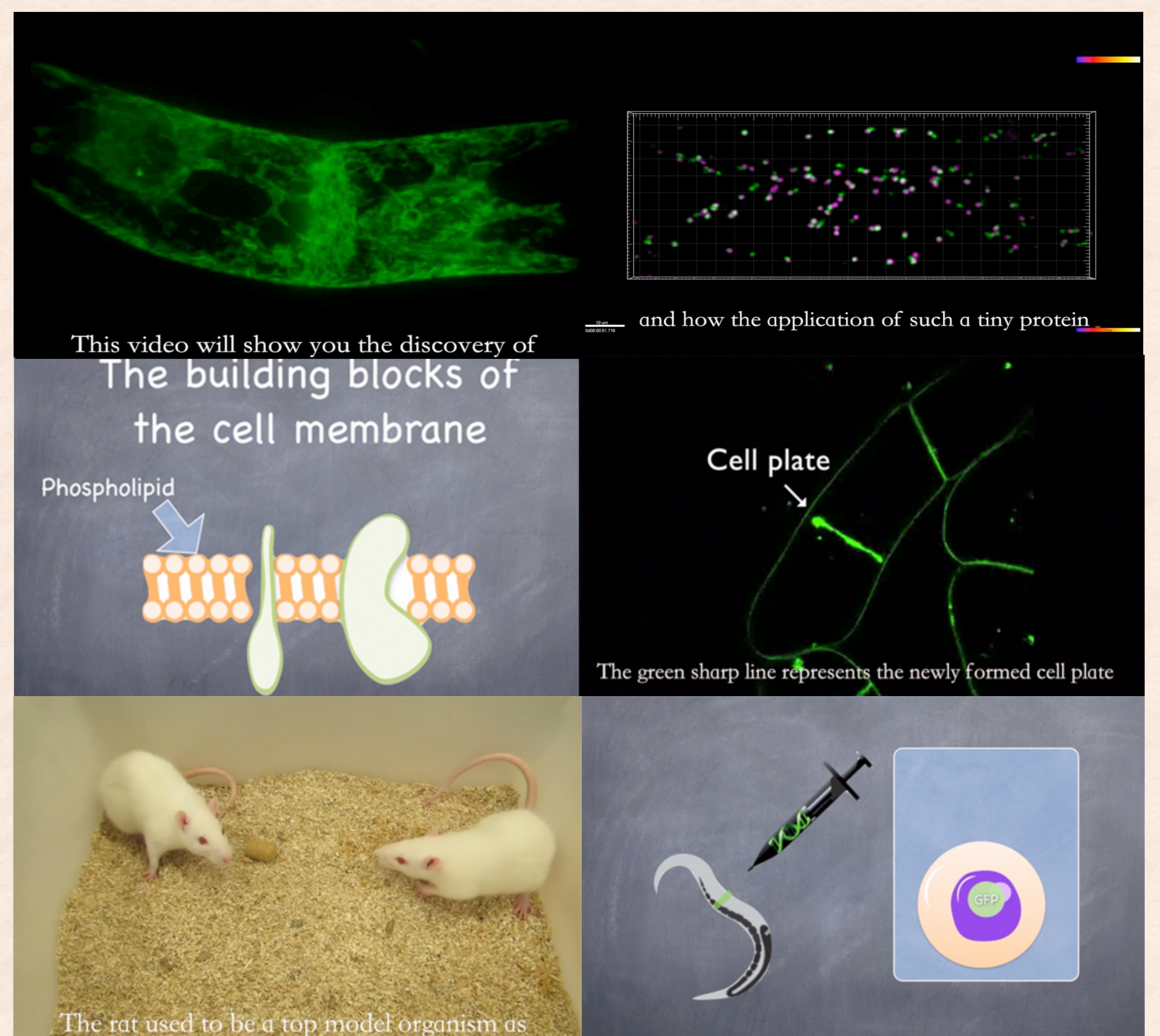
Laboratory tours were conducted to consolidate their knowledge.



Features of self-learning videos

The real-time movies derived from high-resolution confocal imaging system and transgenic organisms (plant and animal) were used to produce self-learning high-quality videos :

1. **Animated introduction**
2. **Explanation of concepts by image / movies collected in research**
3. **Narration with subtitles**



Captured images from the self learning video “ Green Fluorescent Protein (GFP)”

List of self-learning videos

We have developed multiple self-learning videos that can be downloaded freely via the following links:

<http://www.cuhk.edu.hk/centre/ccdb/ktpf/download.html>
& <http://www.cuhk.edu.hk/centre/ccdb/tdg/downloads.html>

1. Model Organisms
2. Pollen Tube
3. Cell Membrane
4. Cell Plate (Cytokinesis)
5. Green Fluorescent Protein (GFP)
6. Protein Detection
7. Cell Culture
8. Making Transgenic Animal Cell

Conclusions

With the use of the high-quality real-time movies derived from current research materials for explaining the more difficult and complicated theories in Biology, students can learn the most up-to-date knowledge in Cell & Developmental Biology.