

LIFS 6170: SPECIAL TOPICS IN MOLECULAR, CELL AND DEVELOPMENTAL BIOLOGY

Course Instructors:

Dr. Zhen LIU (zhenliu@ust.hk) course coordinator

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Venus:

Room 5564, Lift 27-28

Time:

Tuesday and Thursday, 9:00AM – 10:50AM

| Week | Date | Instructor | Topic |
|-------------|----------------------|-------------------|---|
| 1 2 | Sep5, Sep7, Sep12 | LIU Z | Development and applications of super-resolution microscopy |
| 2 3 | Sep14, Sep19, Sep21 | LIU K | Axon regeneration |
| 4 5 | Sep26, Sep28, Oct3 | YAN Y | Mechanical forces in cell and developmental biology |
| 5 6 | Oct5, Oct10, Oct12 | GUO Y | Molecular mechanisms of intracellular trafficking |
| 7 | Oct17, Oct19 | XIE T | Adult stem cell biology |
| 8 9 | Oct 24, Oct26, Oct31 | LIAO Y | Stochasticity in Cell Fate Decision |
| 9 | Nov2 | LIU Z | Paper presentation |
| 10 | Nov7 | LIU K | Paper presentation |

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| 10 | Nov9 | YAN Y | Paper presentation |
| 11 | Nov14 | LIAO Y | Paper presentation |
| 11 | Nov16 | XIE T | Paper presentation |
| 12 | Nov21 | GUO Y | Paper presentation |
| | Final exam (to be arranged by the university) | | |

Course Description:

Molecular, cell, and developmental biology is a diverse area of life science. Students will be introduced to one or more topics of active research in each of the six topic areas.

Learning Outcomes:

1. Students will become acquainted with historical and current research in each of the topic areas;
2. Students will develop the ability to assess scientific literature by reading a research article;
3. Students will develop the ability to review and present scientific literature through oral presentations.

Assessment Scheme:

Each student will give one 30-minute (depending on the number of enrolled students) oral presentation (40% of final grade) on an assigned paper and a closed book examination (2 hours), in which the students need to answer four of the five questions assigned by the instructors (one question per instructor) (60% of final grade).

Student Learning Resource:

Course material (to be provided by each lecturer) will be based on historical and recent scientific literature in each of the topic areas.