

國立清華大學 112 學年第 2 學期新開課程課程大綱

科號		組別		學分	2	人數 限制	Offered in English/須 與老師討論 後加簽選課
修課年級							
上課時間	F7F8			教室			
科目中文名稱	植物細胞生物特論						
科目英文名稱	Special Topics on Plant Cell Biology						
任課教師	劉姿吟						
擋修科目				擋修			

一、課程說明	To explore the newest discoveries and the current methodology in research of plant cell biology
二、教學方式	<ol style="list-style-type: none"> 1. A series of updated research papers related to the field of plant cell biology will be selected for reading and discussion 2. Two-way interaction in this class; students have to read the paper before class and actively participate in discussions in the class.
三、教學進度	<ol style="list-style-type: none"> 1. Cell identity specification in plants: lessons from flower development/<i>J Exp Bot.</i> 2021 May 28; 72(12): 4202–4217. 2. The evolving definition of plant cell type/<i>Front Plant Sci.</i> 2023; 14: 1271070. 3. Polar expedition: mechanisms for protein polar localization/ <i>Curr Opin Plant Biol.</i> 2020 Feb;53:134-140 4. Mechanistic framework for cell-intrinsic re-establishment of PIN2 polarity after cell division/ <i>Nat Plants.</i> 2018 Dec;4(12):1082-1088. doi: 10.1038/s41477-018-0318-3. 5. VISUAL-CC system uncovers the role of GSK3 as an orchestrator of vascular cell type ratio in plants/<i>Communications Biology</i> volume 3, Article number: 184 (2020) 6. Vascular Cell Induction Culture System Using Arabidopsis Leaves (VISUAL) Reveals the Sequential Differentiation of Sieve Element-Like Cells/<i>The Plant cell</i>, 28, 1250-1262 7. A Novel System for Xylem Cell Differentiation in <i>Arabidopsis thaliana</i>/ <i>Mol Plant</i> 2015 Apr;8(4):612-21. 8. Plant GSK3 proteins regulate xylem cell differentiation downstream of TDIF–TDR signalling/<i>Nature Communications</i> volume 5, Article number: 3504 (2014) 9. Dimension Reduction (PCA, tSNE, UMAP) <p>Final Oral Presentation</p>
四、學習評量	<p>In-class discussion: 40%</p> <p>Final oral presentation: 60%</p>