

Course Focus

Andreas Fischer - New Class: BIOO 437 – Plant Development



After several years of 'absence' (some of you may remember that Rich Stout taught this topic when he was still with the department), 'Plant Development' is back! I am offering the class this spring, and will teach it every other year (alternating with BIOO 460, 'Plant Metabolism').

There has been incredible progress in our functional understanding of plant developmental processes over the last 10-15 years.

Accordingly, I will focus on topics such as plant signaling pathways (including plant hormone receptors and hormone signaling), development of apical-basal and radial patterns during embryonic development, meristem maintenance and function, functional details of floral transition and the development of flowers. For a plant's reproductive (and evolutionary) success, it is critical to identify the optimal time point for the initiation of flowers. Accordingly, the mechanisms controlling this 'decision' have attracted a lot of attention, and finally (after a decades-long search... quite a fascinating story) led to the identification of 'florigen' during the last decade. As it is becoming clear that, at least in annuals, the regulation of flowering and senescence (my favorite subject) are linked, I will emphasize the progress which has been made with the identification of molecular, genetic and epigenetic controls of floral induction. Unsurprisingly (for those who know me), I will then also spend quite some time on the regulation of the plant's last developmental phase, senescence. The goal of the class is to provide students with a thorough understanding of basic plant development, and with an understanding of the most important molecular principles governing it.