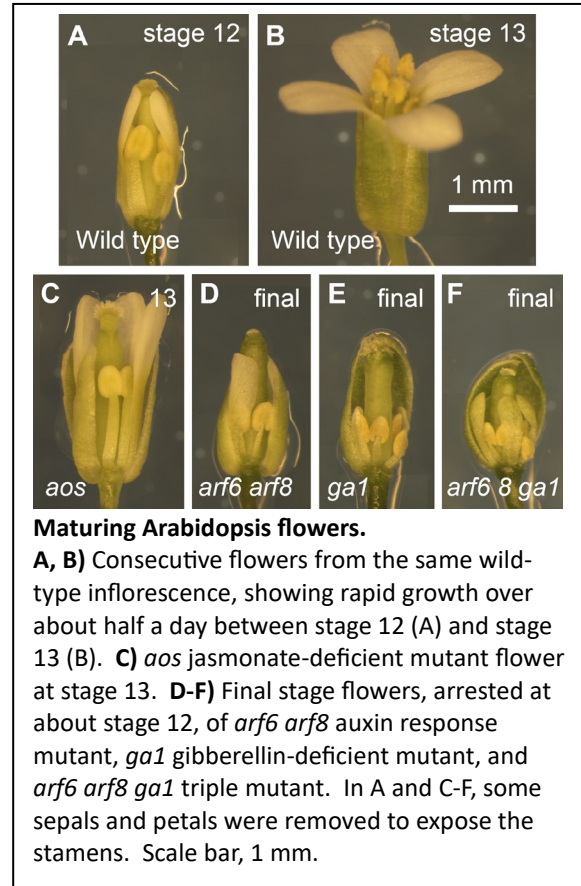


Postdoctoral opportunity to study stamen development

(January 2025)

The laboratory of Jason Reed at the University of North Carolina at Chapel Hill, USA, seeks a postdoctoral researcher to study stamen development during flower maturation in the model plant *Arabidopsis thaliana*. The project is to explore how hormones control rapid but transient stamen filament growth and differentiation just before flowers open, and coordinated anther dehiscence (pollen release). Time-lapse confocal microscopy, single-nucleus RNA-Seq, and fluorescent reporter genes will be used to reconstruct three-dimensional cellular anatomy, growth, and differentiation in stamens. Biophysical, hormonal, and genetic manipulations will probe mechanisms that couple filament growth with the jasmonate production needed for anther dehiscence. The project is an international collaboration with the labs of Daniel Kierzkowski (Université de Montréal, Canada); and Bastiaan Bargmann and Clay Wright (Virginia Tech, USA), and will include visits among the collaborators.

The Department of Biology hosts a dynamic, supportive, and diverse research environment, with many opportunities for professional development. Candidates should have a strong interest in flower development, and experience in molecular biology, single-cell methods, and/or confocal microscopy. Interested individuals should submit i) a cover letter explaining motivation to work on this project, ii) a curriculum vitae, iii) a 1- to 2-page summary of prior research, and iv) names of references to <https://unc.peopleadmin.com/postings/295088>. For inquiries, contact Jason Reed (jreed@email.unc.edu). Application review will begin in February and conclude by April 1.



Maturing Arabidopsis flowers.

A, B) Consecutive flowers from the same wild-type inflorescence, showing rapid growth over about half a day between stage 12 (A) and stage 13 (B). **C)** *aos* jasmonate-deficient mutant flower at stage 13. **D-F)** Final stage flowers, arrested at about stage 12, of *arf6 arf8* auxin response mutant, *ga1* gibberellin-deficient mutant, and *arf6 arf8 ga1* triple mutant. In A and C-F, some sepals and petals were removed to expose the stamens. Scale bar, 1 mm.

Background References:

Nagpal, P., et al. 2005. Auxin Response Factors ARF6 and ARF8 promote jasmonic acid production and flower maturation. *Development* **132**: 4107-4118. <https://dev.biologists.org/content/132/18/4107.long>

Reeves, P.H., et al. 2012. A regulatory network for coordinated flower maturation. *PLoS Genetics* 8(2): e1002506. doi:10.1371/journal.pgen.1002506. <https://journals.plos.org/plosgenetics/article?id=10.1371/journal.pgen.1002506>

Silveira, S.R., et al. 2022. Live-imaging provides an atlas of cellular growth dynamics in the stamen. *Plant Physiol.* **188**(2): p. 769-781. doi: 10.1093/plphys/kiab363. <https://doi.org/10.1093/plphys/kiab363>

Zheng, L., et al. 2019. miR167 limits anther growth to potentiate anther dehiscence. *Development* **146**, dev174375. doi:10.1242/dev.174375. <https://dev.biologists.org/content/146/14/dev174375>