Postdoctoral positions are currently available in the Estelle lab at UCSD. We work on diverse aspects of auxin biology, primarily in Arabidopsis and the moss *Physcomitrium* (formerly *Physcomitrella*) *patens*. Some of the ongoing projects in the lab are described below. If you are interested in joining us in beautiful San Diego, please send your cv, including the names of three references to Mark at mestelle@ucsd.edu

For more information about us, you can also go to https://labs.biology.ucsd.edu/estelle/

- **Auxin, glucosinolates (GLS) and stomatal regulation during drought.** We recently demonstrated that aliphatic GLSs, secondary metabolites best known for their role in defense, are also required for drought tolerance through their role in stomatal regulation. Based on these results we propose that GLSs are recently evolved signaling molecules. Further, auxin negatively regulates GLS levels suggesting that auxin acts to integrate growth and stomatal regulation during drought. We have recently extended this work to other Brassica species suggesting the GLS may have a broad role in drought response in the Brassicaceae. Future studies will involve investigating the mechanism of GLS action and the development of increased drought tolerance in Brassica crops. (https://www.nature.com/articles/s41467-019-12002-1)

- **Assembly of the TIR1-Aux/IAA auxin co-receptor complex on chromatin.** Auxin acts by promoting formation of the TIR1-Aux/IAA co-receptor complex leading to degradation of the Aux/IAA repressors. We have shown that this complex forms on chromatin, presumably while interacting with the ARF transcription factors. In future studies we will identify additional proteins that contribute to chromatin association and explore the regulation of SCF$^{TIR1}$ assembly.

- **Sub-functionalization of the TIR1/AFB proteins.** Recent results from the lab indicate that one of the members of the TIR1/AFB proteins, AFB1, has evolved a specialized function in regulation of rapid root growth. Future studies will include investigating the basis for the sub-functionalization and the physiological function of this rapid response. (https://elifesciences.org/articles/54740)

- **Studies of auxin signaling in the moss Physcomitrella patens.** We use the early diverged land plant *Physcomitrium* as an alternative system to explore fundamental aspects of auxin biology. At present we are investigating the role of auxin in the transition from photosynthetically active but slow growing filaments called chloronemata to chloroplast deficient but rapidly growing filaments called caulonemata. (https://elifesciences.org/articles/13325)