

## **Abstract**

Actin filaments and microtubules are involved in cell development and morphogenesis. Plant Class II formins regulate both cytoskeletal polymers. However their function has not yet been fully described. This study examines effects of LOF mutations in *Arabidopsis thaliana* FH13 (AT5G58160) and FH14 (AT1G31810) genes on early root system development using a pharmacological approach. Since measuring root length of numerous mutant lines in multiple conditions is laborious and time consuming, this thesis also involves optimization of this process with the aim to establish a reliable method of fast visualisation and measurement of *Arabidopsis* seedlings in a time series in the laboratory. Furthermore, statistical analysis for a large amount of data gathered in multiple conditions had to be optimized. While no significant phenotype in terms of root length was found in *fh13*, *fh14* and double *fh13 fh14* LOF mutants under standard conditions, treatment with cytoskeletal drugs revealed possible changes in lateral root branching in an *fh14* mutant. Nevertheless, specific function of FH13 and FH14 remains a question.