The architecture of the aerial part of the plant depends on the activity of the shoot apical meristem (SAM), which generates all plant aerial organs. Initially, the SAM is a vegetative meristem that produces leaves and shoots. When conditions are right, the floral transition occurs and the SAM becomes an inflorescence meristem, producing flowers. *TERMINAL FLOWER 1* (*TFL1*) is a key regulator of plant architecture in *Arabidopsis thaliana* by controlling the identity of the SAM. *TFL1* regulates the floral transition and maintains the identity of the inflorescence meristem, preventing it from becoming a flower. *TFL1* shows a unique expression pattern, in the centre of the SAM and in the vasculature of the inflorescence stem, which is essential for its role in the control of plant architecture. In the absence of *TFL1*, floral genes are expressed in the SAM, flowering occurs early, and inflorescences become flowers. On the contrary, if *TFL1* is overexpressed, flowering is greatly delayed. Despite its importance, little is known about how the expression of *TFL1* is regulated. In a previous work aimed to search for regulators of *TFL1* expression, VOZ1 (VASCULAR PLANT ONE-ZINC FINGER), a transcription factor of unknown function, was identified by a yeast one-hybrid screening as a protein capable of binding to a promoter region of *TFL1* essential for its correct expression.

The objective of this Thesis was to elucidate the role of VOZ1, specifically, to understand its relationship with *TFL1*, if it controls its expression and if it is somehow involved in the control of flowering.

With this aim, we studied the expression of *VOZ1* and its protein subcellular localization. *VOZ1* expression, which overlaps *TFL1* expression in the vasculature of the inflorescence stem and in the shoot apical meristem, and its protein localization, found in the nucleus and cytoplasm, support that VOZ1 acts regulating the transcription of *TFL1*. On the other hand, through various approaches, including yeast one-hybrid, activation of Luciferase transcription and chromatin immunoprecipitation assays, we have demonstrated that VOZ1 binds *in vivo* to the *TFL1* promoter and we have located the region where the binding occurs. The characterization of insertion mutants in *VOZ* genes and transgenic lines overexpressing *VOZ1* allowed us to conclude that VOZ1 works as a promoter of flowering and that it performs that function redundantly with its homologue *VOZ2*. We have seen that VOZ1 regulates the expression of *TFL1* but the results of the genetic analysis indicate that its action on flowering occurs not only through *TFL1* but also through other flowering regulatory pathways. In accordance with this, we have seen that changes in *VOZ* genes also affect the expression of other key regulators of flowering. Finally, we have observed that VOZ1 not only acts regulating *TFL1* transcription but VOZ1 also interacts physically with the TFL1 protein and other factors that are key regulators of flowering.

In summary, this study has revealed that VOZ1 is a new regulator of flowering and the data derived from its characterization suggest an attractive hypothesis, that it connects different regulatory pathways of flowering, interacting with their components at different levels.