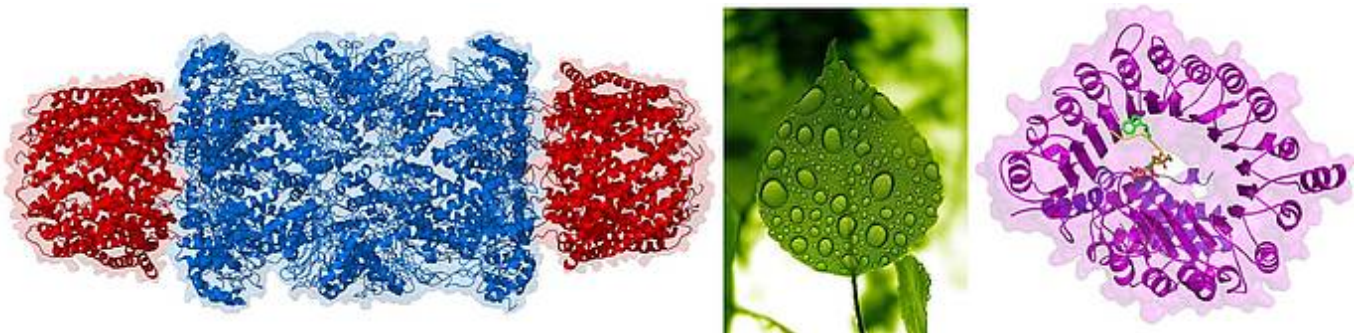


## Signal Integration

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- [Projects](#)
- [Staff](#)
- [Publications](#)
- [Collaborations](#)



In the *Signal Integration Group* we are interested in a novel and conspicuous mechanism of small molecule perception in plants that depends on *signal-mediated interactions followed by targeted protein degradation*. Ubiquitin-mediated degradation is essential for growth and development as it tightly regulates the level of proteins in a specific time and space. To selectively degrade a protein substrate, eukaryotic cells label that protein via an enzymatic cascade with a polyubiquitin chain, which serves as a targeting signal for the proteasome. We have previously discovered that protein-protein interactions that result in targeted degradation react and occur thanks to changes in signal molecules including plant hormones, such as auxin.

Using molecular biology, biochemical and biophysical approaches, the *Signal Integration Group* aims to understand how and when certain E3-Ubiquitin Ligases act as small molecule receptors, and ultimately as signal integrators. Thereby, we ambition to impact the protein degradation field, and to establish systems based in the use of small molecules modulating proteolysis-dependent gene regulation in plants.