



Proposition d'un sujet de stage au M2 ADAM (2020) -

(1 page max photo comprise)

Titre	Effects of ethanol on ethylene perception in plants
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Encadrant 2	Prof Georg Groth (Univ Düsseldorf) mailto:georg.groth@hhu.de
Equipe(s)	Acceptez-vous que ce sujet soit également proposé à l'itinéraire PRO ? OUI <input type="checkbox"/> NON <input checked="" type="checkbox"/>
Résumé	<p>Ethanol was recently been shown to alter ethylene perception at physiological doses (micromolar range) by students and prof. Christian Chervin (Toulouse INP) [1]. Ethanol is a very common molecule in plant cells, but its perception by plants has never been studied in details.</p> <p>Studies of changes in physico-chemical and structural properties of ethylene receptors have been carried out by students and prof. Georg Groth (Univ. Düsseldorf) [2, 3].</p> <p>The proposal for the master internship is to check whether ethanol could lead to changes in physico-chemical and structural properties of ethylene receptors or not. These changes could then partly explain the modulation of the ethylene signal by ethanol. RNAseq analyses of plant cell responses to ultra low doses of ethanol are also planned.</p> <p>This research could have very large applications in biological research of many organisms (plants, animals, microorganisms).</p> <p>This internship will be performed in collaboration between both scientists, cited above, with possibilities for the student to spend time in Toulouse and Düsseldorf, and the possibility to communicate results in an international symposium about ethylene that will be held in Toulouse in July 2021. https://ethylene2020.inp-toulouse.fr/en/index.html</p> <p>The student will learn methods about recombinant protein expression, circular dichroism, microscale thermophoresis and RNAseq.</p> <p>[1] https://doi.org/10.1016/j.plantsci.2019.110368 [2] https://doi.org/10.3389/fpls.2019.00726 [3] https://www.nature.com/articles/s41598-019-45189-w</p>
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