

## **Internship Master 2 (5-6 months)**

**Laboratoire :** Laboratoire de Biogenese Membranaire (UMR 5200 CNRS UB) and plateforme MetaboHub-Bordeaux (<http://www.biomemb.cnrs.fr/spip.php?article90>)

**Supervisors:** Yohann Boutté and Laetitia Fouillen (Plateform MetaboHub-Bordeaux)

**Mail :** [yohann.boutte@u-bordeaux.fr](mailto:yohann.boutte@u-bordeaux.fr) et [laetitia.fouillen@u-bordeaux.fr](mailto:laetitia.fouillen@u-bordeaux.fr)

### **Title of the project: Patterning and interplay of phospholipids and phosphoinositides**

Protein sorting is a central process of eukaryotic cells that orchestrates secretory and endocytic pathways and is supported by the *trans*-Golgi Network (TGN) and early endosomes (EEs), respectively. Plants have evolved an original TGN which blurs the frontiers between secretion and endocytosis to the extreme. While some important proteins of TGN have been uncovered in recent years, lipids have received little attention, while at the same time it became evident that lipids are key determinants of membrane identity and sorting mechanisms. The master project will use advanced approaches in lipidomics (HPTLC, GC-MS and LC-MS) to describe the extent of lipid partitioning at the TGN with a specific focus on phospholipids and their phosphorylated-derivatives, the phosphoinositides (PIPs). Moreover, our results show that another class of lipids, the sphingolipids (SLs), impacts phospholipids and PIPs patterning at TGN. Hence, the goal of the master will be to use the routine methods for phospholipids and sphingolipids and develop a method to quantify phosphoinositides in TGN plants samples.