### Master's degree in Biology – Chemistry-Biology Department

### Master 2 internship project
**Year 2020-2021**

<table>
<thead>
<tr>
<th>Laboratory/Institute:</th>
<th>IAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team:</td>
<td>DYSAD</td>
</tr>
<tr>
<td>Director:</td>
<td>Pierre Hainaut</td>
</tr>
<tr>
<td>Head of the team:</td>
<td>Corinne Albige-Rizo</td>
</tr>
</tbody>
</table>

#### Name and status of the scientist in charge of the project:
Olivier Destaing  
**HDR:** yes ☑

#### Address:
Site Santé-Rd point de la chantourne 38706 Grenoble  
**Phone:** 0476549550  
**e-mail:** Olivier.destaing@univ-grenoble-alpes.fr

### Program of the Master’s degree in Biology:
- ☑ Immunology, Microbiology, Infectious Diseases  
- ☑ Physiology, Epigenetics, Differentiation, Cancer  
- ☑ Neurosciences and Neurobiology  
- ☑ Plantae International

### Title of the project:
**Optogenetics control of macrophage activation and functions.**

#### Objectives (up to 3 lines):
Development of new optogenetic probes to control the activation lymphocytes

#### Abstract (up to 10 lines):
Lymphocytes are multifunctional cell that are essential for immune response. Our lab aims at using new optogenetics probes to control spatio-temporally the activities of the Src family Kinases (SFK) in the context of lymphocytes. Indeed, different knock-out models for SFK showed the essential role of these kinases in the regulation of lymphocyte activation. Thus, we would control these biological process quantitatively with light.

#### Methods (up to 3 lines):
Cell biology, molecular biology, live imaging, viral infection, cytometry and cell sorting

#### Up to 3 relevant publications of the team:


3. Roles of paxillin family members in adhesion and ECM degradation coupling at invadosomes. Petropoulos C, Oddou C, Emadali A, Hiriart-Bryant E, Boyault C, Faurobert E, Vande...
Requested domains of expertise (up to 5 keywords):
General cell biology, immunology, microscopy, mechanotransduction