Name of the hosting institution in France: Bordeaux Institute of Oncology (INSERM U1312)
Name of the host laboratory / research team: MiRCade (team 6)
Address: 146 rue Léo Saignat, 33706 Bordeaux
Website: https://www.bricbordeaux.com/en/
Name of the supervisor: Pr. Aksam Merched
Function: Team Leader
Email: Aksam.merched@u-bordeaux.fr
Phone number: +33(0)5 57 57 16 87

Internship offer

**Topic of the internship (title)**: Understanding the nutritional needs and addiction of liver cancer

<table>
<thead>
<tr>
<th>Proposed dates of the internship</th>
<th>Start</th>
<th>End</th>
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<tr>
<td></td>
<td>18/12/2023</td>
<td>14/06/2024</td>
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</tbody>
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**Scientific and academic objectives of the internship:**

In liver cancers, hepatocellular carcinoma (HCC) is the most common primary hepatic malignancy, accounting for >80% of primary liver tumors. Given the lack of effective therapies for most patients and the fact that survival rates remain poor, there is an urgent unmet need to develop more effective and less toxic therapeutic approaches.

Our evaluation of the profile of tumoral tissues reveals abnormal metabolism of the amino acid tryptophan leading to the disruption of the serotonin (5-HT) pathway in cancer cells (Trézeguet V. et al, Cells 2020). Our aim is to understand the impact of these metabolic defects on the development and proliferation of cancer cells.

In our experimental approaches, we will modulate the expression of proteins involved in these pathways and assess different functional and molecular features of these cells in regular and advanced cell culture systems.

The intern will receive extensive training in cell culture, many functional assays (proliferation, cell migration, invasion, metabolism) and molecular biology tools (real-time qPCR, western blot, viral transfection) in a physio-pathological context dealing with immunology, biochemistry, cell biology and oncology. She/he will enjoy interacting with different members of our international team located in one of the most beautiful city of France with its vineyards and top-quality wines.

We expect our project to generate experimental data and arguments to highlight some druggable targets as new therapeutic options for the treatment of liver cancer patients.

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**Industrial partner**

- Does the project involve a French industry partner? No
- Name: [Insert here]
- Role of the industrial partner in the internship project: [Insert here]
- Main contact: [Insert here]
- Email: [Insert here]

**Australian partner**

- Is the Internship project proposed in the framework of an existing collaboration with an Australian partner university? No
- Name of the Australian partner institution: [Insert here]
- Lab/department/team involved in the collaboration: [Insert here]
- Main contact in the Australian partner institution: [Insert here]
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<tr>
<th>Function</th>
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<td>Email</td>
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Outside of this ongoing collaboration, will students from other Australian universities be considered by the hosting institution in France?  
Yes

**Expected profile of applicant**

<table>
<thead>
<tr>
<th>Level of study</th>
<th>Graduate and post-graduate</th>
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</thead>
<tbody>
<tr>
<td>Discipline</td>
<td>Biology, biochemistry, immunology, health sciences</td>
</tr>
<tr>
<td>Prerequisite knowledge, qualities and skills</td>
<td>Highly motivated, serious and dedicated</td>
</tr>
<tr>
<td>Other specific eligibility criteria</td>
<td>[Insert citizenship requirements, language requirements or other preferences here]</td>
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</tbody>
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