

**Nom/prénom du tuteur de stage : Dr Guillaume HACHE**

Laboratoire d'appartenance : Aix Marseille Université – CERIMED / C2VN

Directeur du laboratoire : Pr Benjamin Guillet

**Nom/prénom du stagiaire :**

Email (stagiaire) :

**Université de Formation :**

Nom de la Formation :

NOM/PRENOM Responsable de la formation :

Date (souhaité) du stage: Début : **15/01/2024**

Fin : **12/07/2024**

**Projet de stage personnel (une demi page maximum)**

Title : Impact of pharmacological management of hypertension on blood-brain barrier permeability and neuroinflammation in the context of chronic kidney disease.

**Short description**

Chronic kidney disease (CKD) is characterized by progressive damage and loss of function of the kidneys. CKD is a major risk factor for ischemic stroke, the severity of which is higher in patients with CKD. Moreover, cognitive disorders appear earlier and more frequently in patients with CKD. Blood-brain barrier (BBB) permeability and neuroinflammation are key factors in the pathophysiology of cognitive disorders and stroke prognosis. We recently demonstrated that cognitive impairment is associated with both blood-brain barrier dysfunction and neuroinflammation in preclinical models of CKD, suggesting that both BBB dysfunction and neuroinflammation may contribute to stroke severity in the context of CKD.

Hypertension is both a cause and effect of CKD and affects the vast majority of CKD patients. The purpose of this preclinical project is to evaluate the contribution of hypertension on BBB dysfunction, neuroinflammation and cognitive impairment in the context of CKD, by the use of both renoprotective and non-renoprotective antihypertensive pharmacological agents. We will perform innovative *in vivo* isotopic imaging and behavioral assessment in the same animals, allowing to correlate cognitive outcomes to functional neuroimaging.

**Candidate**

We are looking for a highly motivated student with a background in neuroscience, nuclear imaging and/or biomedical science. The candidate will be integrated into a young and dynamic team closely supervised by the PI and will work with a PhD student and experienced engineers during the whole duration of the project.

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## Fiche stagiaire

Année 2023-2024

Validation Institut Marseille Imaging