

Internship requested

Type of internship	Master student – ideally with experience in data analyses with Matlab / Python
Start date	from October 2022
End date	4 - 6 months
Title of the project:	Temporal lobe network dynamics during distinct brain states in health and temporal lobe epilepsy
Project description	The overarching goal of this research project is to identify early signs of the trajectory (transition) that leads to the development of temporal lobe epilepsy (TLE) onset. Towards this main objective, we first propose to track, on an existing rich dataset of electrophysiological signals, the formation and dissolution of high-order multiplets together with their informational content during distinct natural behaviors using global transfer entropy and comparing results in health versus TLE. The first objective is to yield the dynamics of the system during distinct brain states (exploration, sleep, and rest) and identify distinct functional clusters of activity at different stages before TLE onset as well as between control and TLE conditions. Temporal lobe dynamics will be identified as well using directionality and time-frequency analysis. The dataset was acquired in adult (control versus TLE) rats, recorded at different stages before and after TLE onset. The project implies exclusively data analyses.
Techniques and methods:	Data analyses using Matlab and Python.
INFORMATION ABOUT THE WORKPLACE	
Institute/Company:	Radboudumc
Department :	Medical Neuroscience
Working address:	Kapittelweg 29
Postal code:	6525 EN
City:	NIJMEGEN
Name supervisor:	Laetitia Chauvière
E-mail supervisor:	Laetitia.Chauviere@radboudumc.nl
Function and expertise supervisor:	Senior Researcher (PI) – Electrophysiologist – PI of the research project supervised.