**Reunion du 3 mai 2023**

**Participants : Adeline, Vincent, Irene, Sebastien, Florence**

Data are coming essentially from a database called MARS. We are mainly interested in a signal which reflects the Oxygen saturation but all together they are 27 signals per patient.

Saturation : varies between 80 and 100% every second

There are saturation and desaturation phenomena which are for variable frequency and length during one night.

The goal is to identify patterns and to differentiate them from noise: some patterns correspond to central event, or obstructive events, etc…

For one patient, there may be all these patterns, so one first step is to segment the signal.

Sebastien knows how to identify the different parts but does know what is their type. There are at least 3 types: obstructiv, central and hyperventilation alveolaire and one class for the noise

Methods to investigate as potentially useful:

FunHDDC: see Martial Amovin thesis and references therein

<https://github.com/cran/funHDDC>

<https://hal.science/hal-01652467>

Bibliography: see the 3 papers on DL and sleep apnea