



## RESEARCH TOPIC CLI14

### The imaging signature of viral-related cancers of the head and neck: quantitative imaging analysis and correlation with molecular and genetic expression

#### Research Area

Services Area

#### Clinical Unit name

Cardiovascular Imaging

#### Supervisor

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#### Abstract

Specific omics signatures are associated to HPV- and EBV-related head and neck cancers, in particular oropharyngeal, nasopharyngeal and hematologic malignancies. Viral status constitutes a crucial determinant of prognosis and response to therapy, hence why designing tailored therapeutic strategies is of paramount importance. The present PhD programme aims at identifying an imaging fingerprint of viral-related head and neck cancers and differentiate these from viral-unrelated disease, through advanced MR techniques- T2 mapping, IVIM, T1 mapping, texture analysis. Quantitative imaging parameters will be correlated with clinical and omics data by means of network analysis. Clinical activities will include MRI acquisition and reporting, radiomics analysis, collection of genetic and molecular data. The same imaging approach will be applied also in the follow-up, to assess disease outcomes and predict treatment toxicity.

#### Scientific references

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### **Type of contract**

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