

# Research group: Carine MICHIELS



## Tumor hypoxia

Understanding the molecular mechanisms of cancer cell resistance to chemotherapy and radiation therapy

Laboratory of Cellular and  
Molecular Biology  
(URBC)

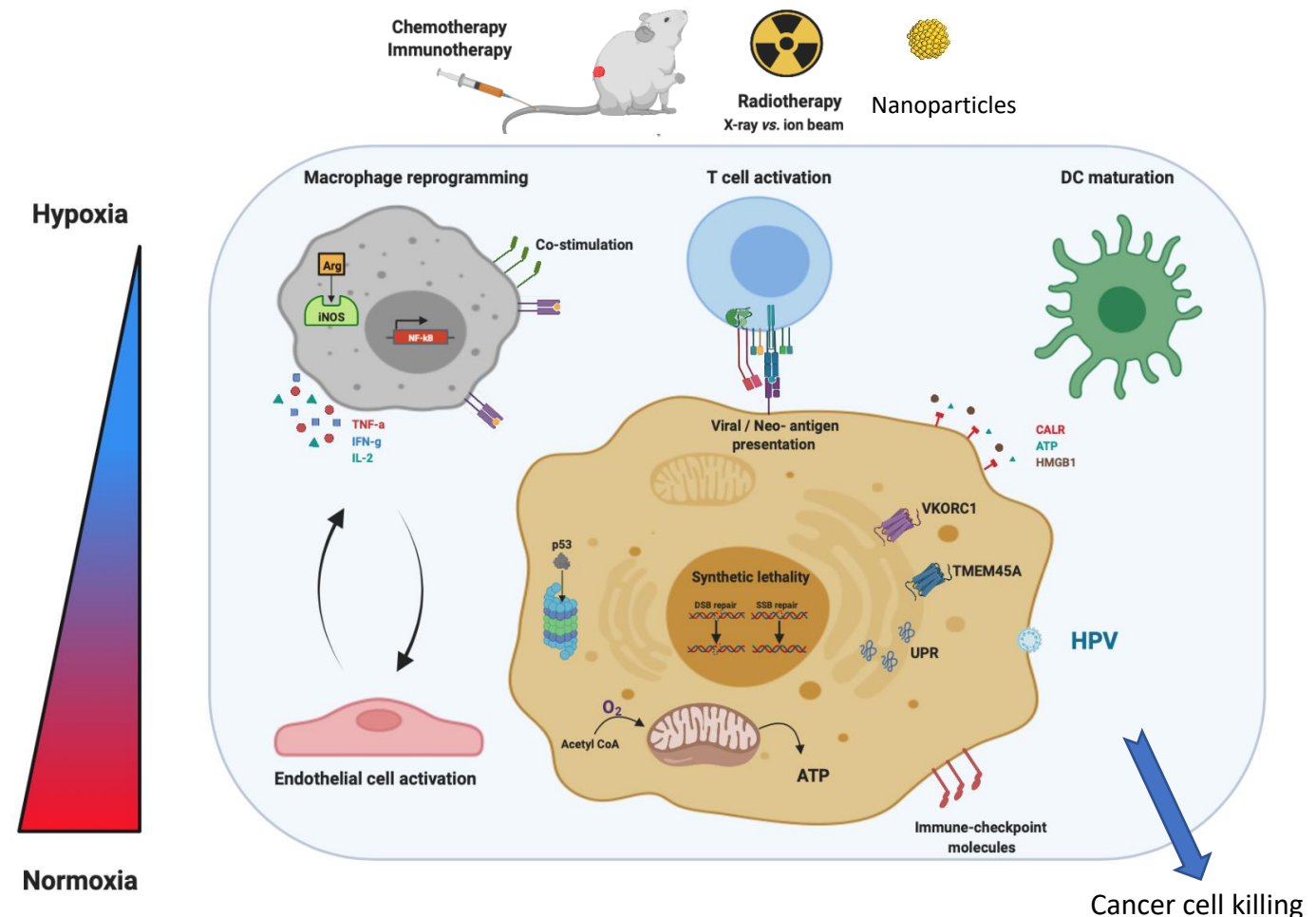


# Research group: Carine MICHELS



The Tumor Hypoxia (TumHyp) group investigates the mechanisms of **tumor progression** and **resistance to chemo-, radio- and immunotherapies**, with the aim to develop novel strategies to overcome treatment resistance or relapse. In this context, the effect of several physical and cellular mechanisms of resistance and invasiveness are investigated, such as tumor hypoxia, cell death, inflammation and the interaction of cancer cells with the tumor microenvironment.

Numerous studies addressed the question on how to overcome intrinsic or acquired resistance of cancer cells to radiotherapy. In this context, current investigations aim to identify genes involved in intrinsic radiotherapy resistance of glioblastoma. Furthermore, the induction of cell death and cell cycle arrest following radiation treatment are under investigation in head and neck, pancreas and lung cancers. Of particular interest is the use of **charged particle radiotherapy**, alone or in combination with **gold nanoparticles** or immunotherapy to potentiate cancer cell killing, **synthetic lethality** or to promote an **inflammatory tumor microenvironment**.



# Research group: Carine MICHIELS



## Group leader

Carine Michiels



## Postdoc

François Bulteau



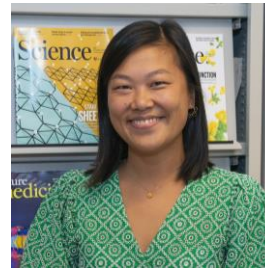
## PhD students

Karim Bouhjar (*UNamur/ Umontreal*)

Jia-Wei Chen

Hortence Parée

Christoph Schifflers (*UNamur/DKFZ*)



## Master students

Arthur Bertozzi

Manon Van Den Abbeel

