Special Seminar

Speaker: Ángel Álvarez-Prado, PhD, Postdoctoral Fellow, University of Lausanne (UNIL)/Ludwig Institute for Cancer Research (LICR), Lausanne

“Exploring and exploiting the immune microenvironment of brain tumors”

Thursday, January 11, 2024, 09.00h – 10.00h
Room EG 050, Murtenstrasse 24, 3008 Bern

Host: Prof. Mark A. Rubin, MD, Director DBMR, Cancer Therapy Resistance, Department for BioMedical Research, University of Bern

Bio Sketch:

Ángel Álvarez-Prado holds a B.Sc. in Biotechnology from the University of Salamanca and a M.Sc in Molecular Biomedicine from the Autonomous University of Madrid, Spain. He obtained his PhD in 2018 working on B cell somatic hypermutation and lymphomagenesis under the supervision of Prof. Almudena Ramiro at the Spanish National Center for Cardiovascular Research (CNIC). In 2019, he joined Prof. Johanna Joyce’s laboratory at the University of Lausanne (UNIL) as a Postdoctoral Fellow, where his research has focused on understanding the biology of the immune microenvironment of primary and metastatic brain tumors, and developing new strategies to manipulate the immune system to fight these dismal cancers.

Abstract:

Brain cancer constitutes a critical public health issue, with primary glioblastoma (GB) and brain metastatic (BrM) cancer patients presenting a dismal prognosis due to poor responses to existing therapies. The importance of the tumor immune microenvironment (TIME) in dynamically regulating cancer progression and shaping responses to therapy is now widely recognized, and multiple treatments targeting different components of the TIME have been developed in recent years. However, there is still a large fraction of brain cancer patients who remain unresponsive to these therapies, highlighting the complexity of the TIME and the need for a better understanding of its pro- and anti-tumoral roles.

In this seminar, I will present a novel strategy to treat primary GB tumors and recent work exploring the immunogenomic landscape of human BrMs. The first part of my talk will focus on how we can exploit an innate immunity checkpoint to trigger anti-tumoral mechanisms in pre-clinical models of GB. In the second part, we will discuss how genetic variation can instruct specific immunophenotypes in the TIME of BrMs and how we can use this information to develop personalized immunotherapies.