Multimodal tracking of tumor metastasis in vivo

Dr. Jacky Goetz – Tumor Biomechanics lab – INSERM U1109 – University of Strasbourg

GIGA-Cancer seminar: 20/10/17 -12H30 Léon Frédericq Auditorium

Jacky Goetz is graduated in pharmacology and cell biology from the University of Strasbourg in France and moved to Canada to the laboratory of Ivan Robert Nabi at the University of British Columbia, to work on the interaction between the endoplasmic reticulum and mitochondria, as well as the glycosylation of membrane proteins. For his postdoc, Jacky moved to the Spanish national centre for cardiovascular research (CNIC) in Madrid and the laboratory of Miguel Angel del Pozo to study the tumour microenvironment. Subsequently, Jacky joined the laboratory of Julien Vermot at the Institute of Genetics and Molecular and Cellular Biology (IGBMC) in Strasbourg to pursue his interests in mechanotransduction. In 2012, he won the French Society for Cell Biology Young Scientist Award and, in 2013, he started his own research group – ‘Tumor Biomechanics’ – in Strasbourg to work on intravital imaging methods and biomechanical forces during tumour progression. He is also heading the Imaging Platform of the “Centre de Recherche en Biomédecine” of the University of Strasbourg.

http://www.goetzlab.com

Objectives of his research

While much progress has been made towards understanding the key steps of the metastasis cascade, the molecular and cellular mechanisms driving metastasis formation remain to be elucidated and better described in a realistic in vivo context. This requires the usage of state-of-the-art imaging technologies that are compatible with relevant animal models for tracking each steps of the metastasis cascade. In addition, biomechanical forces are key drivers of metastatic evolution. For example, tumors sense and respond to stiffening of its surrounding stroma by increasing their invasive potential. High extravascular stress caused by tumor growth and interstitial fluid pressure leads to vascular compression that impairs perfusion and eventually promotes tumor progression, immunosuppression, and treatment resistance. Further work is required to better understand whether and how biomechanical forces shape metastatic growth. His research group has developed the powerful intravital CLEM (Correlative Light and Electron Microscopy) technology that is used to tackle key biological events driving tumor invasion and metastasis formation.
Jacky Goetz will be available for discussion from 10:00 to 12:00 (T. Schwann room)

If you are interested in discussing with him, could you please sign up in the following Doodle:

https://doodle.com/poll/rnesmdda3fsv7fw6