



Postdoc (3 yr): Intracellular Notch trafficking and stem cell fate

We are looking for a postdoc with a PhD in molecular and cell biology with experience in primary cell culture (organoids) and cellular imaging using high resolution fluorescence microscopy.

Background: Notch proteins are master regulators of cell fate during development and control selfrenewal and differentiation in most adult tissues. Activation of Notch proteins is regulated by successive enzymatic cleavages that release the cell membrane-bound form that acts as a transcriptional regulator. Notch activity is also regulated by intracellular trafficking but how localization and activity are connected is unclear. We recently identified ion and metal-binding transporters as novel key mediators of intracellular Notch trafficking and activity.

Key objectives. 1) To identify the importance of new transport(er), in vesicular trafficking and Notch activity and **2)** to interfere with the function of these transporters to block Notch activity in tumours or promote tissue regeneration. You will apply gain and loss of function (CRISPR, RNA silencing, pharmacological) in Notch-dependent 2D and 3D models (cell lines, organoids and high-resolution fluorescent imaging (confocal, STED) and single-cell tissue analysis to decipher how these transport influences the contextual spatial and temporal Notch activity to direct cell specification and cell renewal.

General Profile: We are looking for an open-minded, independent and result-oriented team player with a strong interest in basic research into regenerative medicine and cancer. You are fluent in English, both spoken and written.

Conditions of employment: according to the collective labour agreement of Dutch Universities.

Contract type: Temporary, three years. **Starting date:** 2022

Organization: Maastricht University, [GROW Institute](#) for Oncology. The [radiotherapy department](#) conducts fundamental and translational research and is closely affiliated with MAASTRO patient clinic and the Maastricht Comprehensive Cancer Centre. Our research is focused on identifying therapeutic vulnerabilities in the tumour microenvironment to improve treatment response. The department has four PI's with research themes in tumour cell metabolism, cell death, extracellular vesicles and Notch signaling and stem cell fate. The lab has a strong expertise in culturing normal and tumour stem cell models (organoids, other 3D models) and has access to a large tissue biobank and material from (pre)clinical studies. Furthermore, we have a core facilities for NextGen sequencing, high resolution optical and electron microscopy and mass spectrometry (M4I) at UM.

Additional information: Prof. dr Marc Vooijs marc.vooijs@maastrichtuniversity.nl

Applications: One pdf file with a cover letter including summary of your research experience, scientific interests, and academic and career goals, CV and contact information of three references.