

10 PhD positions available on cancer derived EVs within the Innovative training Networks.

We are recruiting **10 early stage researchers** for the PhD research projects available in the **proEVLifecycle research training programme**. You will jointly clarify the lifecycle of extracellular vesicles and identify novel biomarkers and therapy targets for prostate cancer using state-of-the-art model systems, imaging and profiling tools, and systems biology.

The lifecycle of extracellular vesicles (EVs) is poorly understood and their potential as non-invasive biomarkers and therapy targets is a growing area of interest. This research can perfectly be integrated with the high need for novel biomarkers and therapy targets for prostate cancer. Any relief in the burden of this disease will have major impact on the huge socio-economic problems for patients, families, caregivers and society. In proEVLifecycle, we aim to unravel the mysteries of EV biogenesis, homing and uptake to explain how EVs operate in disease processes, their heterogeneity, their molecular complexity, the biological functions they drive, their local and systemic dissemination and how these may be manipulated.

Our international consortium is composed of **8 academic institutions and 2 companies** based in **Austria, Finland, France, Spain, The Netherlands and United Kingdom** that offer you excellent and innovative scientific training through research towards a PhD degree and extensive opportunities for mobility and patient-facing experiences, with the support of 11 partner organisations.

Interested to learn more about our vacancies, consortium and programme? Please check our website: <https://proevlifecycle.eu>

Deadline: 1 November 2019

You are invited to apply at <https://proevlifecycle.eu> if you meet the following eligibility criteria:

- You have the requested skills and experience for the ESR project(s) of interest ([see Vacancies](#))
- You are in the first 4 years (full-time equivalent research experience) of your research career and have not been awarded a doctoral degree. This is measured from the date when you obtained a degree that formally entitles you to embark on a doctorate until the start date of employment.
- You are willing to move to the country of the host institution of your interest.
- You have not resided or carried out your main activity (work, studies, etc.) in the country of the host institution of your interest for more than 12 months in the 3 years immediately before the start date of employment. Short stays, such as holidays, are not taken into account.
- You are proficient in written and spoken English.

One PhD position in France:

ESR6 – Tracking endogenous prostate cancer-derived EVs in vivo

Host institution: [Institute National de la Santé et de la Recherche Médicale](#), Paris, France

Host department: INSERM U1266, Institute of Psychiatry and Neurosciences of Paris

Supervisor: Dr. Guillaume van Niel

Project description

Tumor development is increasingly linked to the secretion of vesicles called exosomes. Exosomes that are secreted and exchanged between cancer cells and their surrounding cells can favor migration, metastasis and a

pro-tumorigenic micro-environment. The study of the roles of exosomes in vivo remains a challenging task that we can now address using our exosome reporters and our zebrafish models that allow live-visualization of exosome secretion and exosome tracking in vivo.

Our project combines imaging methods prostate cancer cell culture and xenografts in zebrafish brain to study with these tools to the role of exosomes in cancer development and invasion. For this purpose, we will first develop prostate cancer cell lines expressing various exosome reporters to analyze exosome secretion and composition in vitro. We will profit from these cellular model to adapt and improve various strategies developed in the team to modulate exosomes secretion, uptake and functions. In a second time, we will subcutaneously xeno-graft prostate cancer cells in zebrafish strains that are currently developed in the team to stably express exosomes reporters in a cell type specific manner. By expressing distinct exosome reporters in xenografted cancer cells and in host zebrafishes, we will track the exchange of exosomes between xenografted cancer cells and their neighboring cells in zebrafish. These xenograft models will first allow us to map the distribution of exosomes from prostate cancer cells in the whole organism of the zebrafish and to analyze the composition of released exosomes in vivo. Then, we will apply in vivo the tools we are developing to modulate exosomes release, uptake and functions to correlate exosome communication with the capacity of cancer cells to migrate and invade neighboring tissues. This project will shed new light on the role of exosomes during cancer progression in vivo and unveil their relevance in prostate cancer progression.

Type of contract

Fixed-term position for 36 months

Full-time, 39 hrs per week

Required expertise and skills in addition to the general eligibility criteria

We are looking for a very motivated student with previous expertise in exosomes (isolation, analysis...) and intercellular communication and a scientific background integrating good knowledges in cell biology and intracellular trafficking. A previous experience in cell culture, animal handling (preferably zebrafish), molecular biology will be favored. Skills in imaging (photon and electron microscopies) will be appreciated but not mandatory.

Website

Research group van Niel: <https://ipnp.paris5.inserm.fr/research/teams-and-projects/17-equipe-van-niel>

Contact details

For more information about this position, please contact:

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