

PhD Project Description

School/Department:	Department of Gastroenterology and Hepatology, Erasmus MC
Supervisor information:	<ul style="list-style-type: none"> • Dr Qiuwei Abdullah Pan • Email: q.pan@erasmusmc.nl • Prof. dr. M Peppelenbosch m.peppelenbosch@erasmusmc.nl • Website: https://www.erasmusmc.nl/en/research/researchers/pan-q • Personal Grants (ongoing): <ul style="list-style-type: none"> - Netherlands Organisation for Scientific Research, Vidi grant 2019: € 800,000 - Dutch Cancer society young investigator grant, 2017, € 549.000... • Most relevant recent publications (*corresponding author): <ol style="list-style-type: none"> 1. Cao W, Li M, Liu J, Zhang S, Noordam L, Verstegen MMA, Wang L, Ma B, Li S, Wang W, Bolkestein M, Doukas M, Chen K, Ma Z, Bruno M, Sprengers D, Kwekkeboom J, J W van der Laan L, Smits R, Peppelenbosch MP, Pan Q*. LGR5 marks targetable tumor-initiating cells in mouse liver cancer. <i>Nature Communications</i>. 2020 Apr 23;11(1):1961. doi: 10.1038/s41467-020-15846-0. (IF: 12) 2. Liu J, Li P, Wang L, Li M, Ge Z, Noordam L, Lieshout R, Verstegen MMA, Ma B, Su J, Yang Q, Zhang R, Zhou G, Carrascosa LC, Sprengers D, IJzermans JNM, Smits R, Kwekkeboom J, van der Laan LJW, Peppelenbosch MP, Pan Q*, Cao W*. Cancer-Associated Fibroblasts Provide a Stromal Niche for Liver Cancer Organoids That Confers Trophic Effects and Therapy Resistance. <i>Cell Mol Gastroenterol Hepatol</i>. 2020 Sep 12;S2352-345X(20)30140-5. (IF: 7) 3. Chen K, Ma J, Jia X, Ai W, Ma Z, Pan Q*. Advancing the understanding of NAFLD to hepatocellular carcinoma development: From experimental models to humans. <i>Biochim Biophys Acta Rev Cancer</i>. 2019 Jan;1871(1):117-125. (IF: 7.4) 4. Cao W, Chen K, Bolkestein M, Yin Y, Verstegen MMA, Bijvelds MJC, Wang W, Tuysuz N, Ten Berge D, Sprengers D, Metselaar HJ, van der Laan LJW, Kwekkeboom J, Smits R, Peppelenbosch MP, Pan Q*. Dynamics of Proliferative and Quiescent Stem Cells in Liver Homeostasis and Injury. <i>Gastroenterology</i>. 2017 Oct;153(4):1133-1147. (IF: 17) 5. Wang W, Yin Y, Xu L, Su J, Huang F, Wang Y, Boor PPC, Chen K, Wang W, Cao W, Zhou X, Liu P, van der Laan LJW, Kwekkeboom J, Peppelenbosch MP, Pan Q*. Unphosphorylated ISGF3 drives constitutive expression of interferon-stimulated genes to protect against viral infections. <i>Science Signaling</i>. 2017 Apr 25;10(476). pii: eaah4248. (IF: 6.5) <p>Publication link (>20 first authorship, >100 last/corresponding authorship publications) https://pubmed.ncbi.nlm.nih.gov/?term=Pan+Q%5BAU%5D+AND+%28Erasmus%29+OR+Pan%2C+Qiuwei&sort=date&size=100</p>
Project Title:	Understanding the biological and therapeutic implications of stem cells liver cancer
Abstract:	<p>The key concept underlying the cancer stem cell (CSC) or tumor-initiating cell (TIC) theory is that tumors are maintained through a hierarchical structure, in which different cell populations have different functionalities in pathophysiology. The bulk of a tumor is thought to consist of CSCs/TICs as well as rapidly proliferating cells. CSCs/TICs are responsible for tumor initiation, resistance to conventional treatment, and distant metastasis.</p> <p>In the liver, we previously have characterized two populations of stem cells in responding to tissue injury, including the proliferative LGR5 stem cells and label-retaining quiescent stem cells. We further defined that the LGR5 compartment as an important CSC population, representing a viable therapeutic target for combating liver cancer.</p> <p>Hepatitis virus infection and fatty liver disease are the main causes of liver cancer. In this project, we aim to in depth understand the role of different stem cell populations in liver carcinogenesis and develop potential therapeutic targeting in the context of viral hepatitis and fatty liver disease-caused liver cancer.</p>
Requirements of candidate:	<ul style="list-style-type: none"> • We are looking for a highly motivated, hardworking student to join our very international team. Our strength is in using team work to tackle large scientific questions and thus requires a student with good communication skills. • Master degree (or MSc/MD) • Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we could help with the scientific part of your scholarship proposal) • English language requirement: • <i>English speaking countries & Netherlands:</i> no requirement • <i>Other countries:</i> IELTS 7.0 (min 6.0 for all subs), TOEFL 100 (min 20 for all subs), or discuss for specific cases.

Erasmus MC, ranked world no. 32 for [Clinical Medicine US News 2020](#) no. 30 [Nature Index for Biomedical Sciences 2019](#)

PhD Project Description

Application requirements & Deadlines:

<https://www.eur.nl/en/about-eur/erasmus-university-china-centre/csc-scholarship>

Erasmus MC, ranked world

** No.32 for Clinical Medicine US News 2020:*

<https://www.usnews.com/education/best-global-universities/clinical-medicine?page=3>

** No. 30 Nature Index for Biomedical Sciences 2019:*

<https://www.natureindex.com/supplements/nature-index-2019-biomedical-sciences/tables/healthcare>