

## PhD Project Description

School/Department:	Department of Gastroenterology and Hepatology, Erasmus MC
<b>Supervisor information:</b>	<ul style="list-style-type: none"> <li>• Dr Qiuwei Abdullah Pan</li> <li>• <b>Email:</b> <a href="mailto:q.pan@erasmusmc.nl">q.pan@erasmusmc.nl</a></li> <li>• Prof. dr. M Peppelenbosch <a href="mailto:m.peppelenbosch@erasmusmc.nl">m.peppelenbosch@erasmusmc.nl</a> <ul style="list-style-type: none"> <li>• <b>Website:</b> <a href="https://www.erasmusmc.nl/en/research/researchers/pan-q">https://www.erasmusmc.nl/en/research/researchers/pan-q</a></li> <li>• <b>Publication link:</b></li> <li>• <b>Personal Grants (ongoing):</b></li> </ul> </li> <li>- Netherlands Organisation for Scientific Research, Vidi grant 2019: € 800,000</li> <li>- Dutch Cancer society young investigator grant, 2017, € 549.000...</li> <li>• <b>Most relevant recent publications (*corresponding author):</b> <ol style="list-style-type: none"> <li>1. Ji Y, Ma Z, Peppelenbosch MP, <b>Pan Q*</b>. Potential association between COVID-19 mortality and health-care resource availability. <i>Lancet Glob Health</i>. 2020 Apr;8(4):e480. doi: 10.1016/S2214-109X(20)30068-1. (IF: 21.6)</li> <li>2. Cao W, Li M, Liu J, Zhang S, Noordam L, Versteegen 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, <b>Pan Q*</b>. 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)</li> <li>3. Ma Z, Li P, Ikram A, <b>Pan Q*</b>. Does Cross-neutralization of SARS-CoV-2 Only Relate to High Pathogenic Coronaviruses? <i>Trends Immunol</i>. 2020 Oct;41(10):851-853. (IF: 13.4)</li> <li>4. Li P, Ikram A, Peppelenbosch MP, Ma Z, <b>Pan Q*</b>. Systematically mapping clinical features of infections with classical endemic human coronaviruses. <i>Clin Infect Dis</i>. 2020 Sep 14;ciaa1386. (IF: 8.3)</li> <li>5. Li P, Liu J, Ma Z, Bramer WM, Peppelenbosch MP, <b>Pan Q*</b>. Estimating Global Epidemiology of Low-Pathogenic Human Coronaviruses in Relation to the COVID-19 Context. <i>J Infect Dis</i>. 2020 Jul 23;222(4):695-696. (IF: 5)</li> </ol> </li> </ul> <p><b>Publication link (&gt;20 first authorship, &gt;100 last/corresponding authorship publications)</b>  <a href="https://pubmed.ncbi.nlm.nih.gov/?term=Pan+Q%5BAU%5D+AND+%28Erasmus%29+OR+Pan%2C+Qiuwei&amp;sort=date&amp;size=100">https://pubmed.ncbi.nlm.nih.gov/?term=Pan+Q%5BAU%5D+AND+%28Erasmus%29+OR+Pan%2C+Qiuwei&amp;sort=date&amp;size=100</a></p>
<b>Project Title:</b>	<b>Antiviral therapy development against human coronavirus infections</b>
<b>Abstract:</b>	<p>Coronaviruses are a large family of RNA viruses circulating among a wide range of animal species. Seven types of coronaviruses naturally infect humans, although all of them are thought to originate from animals. The three highly pathogenic coronaviruses, including MERS-CoV, SARS-CoV, and SARS-CoV-2, can cause severe acute respiratory diseases in humans. By contrast, the four genotypes of low pathogenic human coronaviruses (LPH-CoV), including OC43, HKU1, 229E, and NL63, usually only cause mild and self-limiting respiratory tract infections. Genetically, SARS-CoV-2, SARS-CoV, MERS-CoV, OC43, and HKU1 are betacoronaviruses, whereas 229E and NL63 are alphacoronaviruses. SARS-CoV-2 is most closely related to SARS-CoV, moderately to MERS-CoV, and is slightly distal to LPH-CoV.</p> <p>LPH-CoV, including OC43, HKU1, 229E, and NL63, are endemic and have been widely circulating among the global population for decades. We recently have comprehensively characterized the clinical features of LPH-CoV and they actually can cause severe outcomes in special patient population. However, there is no approved medication for treating these infections. The unprecedented escalation of COVID-19 pandemic has called urgency for antiviral drug development. In this project, we aim to understand the antiviral mechanisms and develop antiviral therapies against both high and low pathogenic coronaviruses as well as possible new coronaviruses that may emerge in the future.</p>
<b>Requirements of candidate:</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Master degree (or MSc/MD)</li> <li>• Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we could help with the scientific part of your scholarship proposal)</li> <li>• English language requirement:</li> <li>• <i>English speaking countries &amp; Netherlands:</i> no requirement</li> <li>• <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.</li> </ul>

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

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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>