

NWO Projects Granted: Corona: Fast-track data

PI: prof. dr. F.M. (Fulvio) Reggiori

Organisation: Department of Biomedical Sciences of Cells and Systems, University of Groningen, University Medical Center Groningen

In collaboration with Alexander Doemling and Matthew Groves (Department of Drug Design, RUG) and with Jolanda Smit (Department of Medical Microbiology and Infection Prevention, UMCG).

Title: Identification of pan-anti-betacoronaviral compounds using a simple and rapid high-throughput screening approach

Summary: The goal of this project is to identify lead molecules that specifically target a highly conserved interaction between two coronaviral proteins, which we have recently shown to be vital for coronaviruses. We will establish a miniaturized assay to assess interaction between these two proteins, and use it to screen a library of 100'000 compounds. Hits will be tested in infection models against coronaviruses, including SARS-CoV-2. We expect to identify a therapeutic lead for both the current and future Covid outbreaks.

Budget: 50.000€

PI: prof. dr. Lude Franke

Organisation: Department of Genetics, University of Groningen, University Medical Center Groningen

Title: Genetic risk factors that determine Covid-19 susceptibility and severity

Summary: It is mostly unclear why some people get severely ill due to a Covid-19 infection. We hypothesize this is partly due to genetic risk factors that determine both Covid-19 susceptibility and severity. In this project we will conduct a genome-wide association study in the Lifelines biobank, which has previously generated genotype data for 50,000 participants. We are sending out questionnaires to them, asking about Covid-19 related symptoms, permitting us to study the genetics of Covid-19 infection susceptibility and severity.

Budget: 50.000€

PI: prof. dr. J.O. (Jochen) Mierau

Organisation: Faculty of Economics & Business and Aletta Jacobs School of Public Health, University of Groningen

Title: Health Disparities & Lifestyle in Covid-19 escalation

Summary: Data from intensive care units suggest that the share of overweight patients in the IC is larger than the share of overweight individuals in general. Lifestyle, and health in general, is socially patterned with obesity and other detrimental lifestyle factors (e.g. smoking) being particularly prevalent among individuals with lower socioeconomic status. In this study we use data that are currently being collected in a (bi-)weekly survey to obtain an understanding of lifestyle and socioeconomic determinants of COVID-19 prevalence and escalation.

Budget: 50.000€

PI: prof. dr. H.M. (Marika) Boezen

Organisation: Department of Epidemiology, University of Groningen, University Medical Center Groningen

Title: Environmental risk factors for COVID-19 susceptibility and severity in COPD patients

Summary: Subjects with chronic obstructive pulmonary disease (COPD) are considered to be at high risk for a severe course of the disease caused by COVID-19. They were instructed to stay home and practice social distancing earlier than the general Dutch population.

However, it is unclear whether patients with COPD are also more susceptible to the COVID-19 virus and whether environmental factors play a role in susceptibility and progression of COVID-19 related symptoms. We will study this in the Lifelines population.

Budget: 50.000€