

## **The genetic influence on the disease course in rheumatoid arthritis**

Rheumatoid arthritis is a chronic, inflammatory disease which, untreated, leads to destruction of joints, comorbid conditions and decreased quality of life. To quickly initiate an effective treatment is therefore of great importance, but only about two thirds of the patients respond to the first line treatment and reliable predictors of treatment response are not yet identified. Genetics and environment are known to interact in the disease aetiology, but little is still known about the genetic contribution to treatment outcomes. In this project, you will study the influence of genetics on various aspects of the clinical presentation of RA, its disease course and response to treatment. You will learn how to work with genome wide data, perform a genome wide association study, construct polygenic risk scores, and study how these relate to disease to various disease outcomes.

You will work with large genetic datasets combined with clinical data, and use R, SAS and genetic software and bash scripts on our Linux server to perform the analysis.

You will be part of the chronic inflammatory disease group, at the Division of Clinical Epidemiology (KEP), working in close collaboration with researchers with various background such as epidemiology, rheumatology, statistics and computer science. You are welcome, and expected to, take part in the research activities at KEP, including research group meetings with scientific presentations and discussion, journal clubs and statistical seminars.

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