FOXP2 mutations in the general population

Our department is highly interested in the gene FOXP2, and the related genes FOXP1 and FOXP4. Heterozygous mutations in FOXP2 cause a neurodevelopmental disorder called childhood apraxia of speech, while mutations in FOXP1 and FOXP4 cause neurodevelopmental disorders where speech problems are only part of the phenotype.

Now more and larger DNA sequencing datasets of healthy individuals become available, we sometimes see mutations that should cause a neurodevelopmental disorder in supposedly healthy individuals. These individuals probably have mild symptoms that never warranted further study. The UK Biobank study, that has made DNA sequencing and questionnaire data available from some 200,000 healthy people, now enables us to identify healthy individuals with mutations in the FOXP genes with likely large effects. In addition, we can use the brain imaging data of the UK Biobank to study whether these mutations have an effect on the brain.

This will be a great opportunity to work with big datasets of the UK Biobank, and get familiar with both genetic and imaging data analysis. This project will take place (digitally) at the Language and Genetics Department of the Max Planck Institute for Psycholinguistics in Nijmegen, and will be supervised by Else Eising and Barbara Molz.

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