

## **Dr. Rodrigo Coutinho de Almeida**

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### **Short bio**

Dr. Rodrigo Coutinho de Almeida is a post-doc research at the Department of Biomedical Data Sciences, Section of Molecular Epidemiology (head Prof. P. Eline Slagboom) at the LUMC in the Osteoarthritis (OA) group (Prof I. Meulenbelt). Since his PhD, he has been exploring the non-coding genome, applying statistical genetics and data integration approaches to gain a better understanding of how predisposing genetic factors and non-coding RNAs contribute to complex diseases pathogenesis. In his PhD at the Department of Genetics, University of Groningen, in Prof. Cisca Wijmenga's group, he worked with different types of large omics datasets, including data from the Coeliac Disease Immunochip Consortium (N~ 24,000), Prevent Celiac Disease Cohort (N ~ 1,000) and LifeLines Cohort (N ~ 624 RNA-seq) to identify genetic factors which contribute to celiac disease (CeD). He applied statistical genetics, eQTL and pathway analyses to refine genome-wide associated (GWAS) regions in celiac disease. This work received honor-nomination Young Investigator Award at European Society Human Genetics Conference (ESHG) in 2011. Moreover, he focus on profiling microRNA from CeD patients by small RNA-seq from plasma and small intestine. He received the DeKock grant, to replicate the results of a circulating miRNA profile. Together with microRNA-seq profiling from small intestine biopsies, this work helped to indicate new possible biomarkers for CeD. This work was honored nominated as best poster at ESHG in 2013.

After finishing his PhD, he received the Young Talent Grant Award from the CNPQ (Ministry of Education of Brazil) to carry out a postdoctoral research at the Department of Genetics, Federal University of Paraná-Brazil in Prof Maria Luiza Petz-Erler's group. There he helped to perform the first GWAS from a Brazilian endemic disease (pemphigus foliaceus) and develop methods to identify associated variants affecting microRNA target genes. This work received 2 awards at the Brazilian Congress Genetics 2015 and 2017. In Brazil as a co-PI he received the Universal Grant Award from the Brazilian Ministry of Education, CNPQ (~ 20,000 euros). This grant allowed him to developed data integration approaches to analyze genetic variants that might affect microRNA target binding site. This worked was awarded an ESHG Conference Fellowship (2017) and the best poster award on this conference.

Currently, he is also a data analytics member of the Genetics of Osteoarthritis Consortium, which is the large GWAS meta-analysis in osteoarthritis (N ~ 800,000 ). Furthermore, he is using system biology and statistical approaches to high dimensional omics datasets (genome, transcriptome and methylome) in cartilage, bone and blood from osteoarthritis patients from the RAAK study (N ~ 500) at LUMC.

His current motivations are on understanding how healthy elderly individual transcriptomic are different from the general population (young and elderly) in several different levels.