Universität Basel

Research Project

IMAging GEnetics for MENtal Disorders (IMAGEMEND)

Third-party funded project

Project title IMAging GEnetics for MENtal Disorders (IMAGEMEND)
Principal Investigator(s) Papassotiropoulos, Andreas ;
Co-Investigator(s) de Quervain, Dominique ;
Project Members Sifalakis, Klara ;
Organisation / Research unit
Bereich Psychiatrie (Klinik) / Molekulare Neurowissenschaften (Papassotiropoulos)
Departement Biozentrum / Life Sciences Training Facility (Papassotiropoulos)
Departement Psychologie / Molecular Neuroscience (Papassotiropoulos)
Department
Project start 01.10.2013
Probable end 30.09.2017
Status Completed

Mental disorders are leading causes of disability, absence from work and premature retirement in Europe. While magnetic

resonance imaging (MRI) facilities are broadly available and a vast research literature exists, few neuroimaging applications

have reached clinical practice in psychiatry. A major problem is that mental illnesses are currently diagnosed as discrete

entities defined clinically. Instead, recent results show that mental disorders are best understood as quantitative alterations

in neural systems relevant across traditional diagnostic boundaries that reflect individual, genetic and environmental risk

factors. In the IMAGEMEND consortium, we aim to discover these systems to identify the patient characteristics most

relevant for treatment, derive biomarkers and decision rules from this systems-level dimensional account, and systematically

validate biomarker panels in patient, high-risk and epidemiological samples to produce automated imaging-based diagnostic

and predictive tests tailored for wide distribution throughout Europe in standard clinical settings. Focusing on schizophrenia,

bipolar disorder and attention deficit-hyperactivity disorder, we have assembled Europe's largest dataset combining

neuroimaging, genetic, environmental, cognitive and clinical information on approximately 13000 participants, and have

recruited international replication datasets of more than 30000 people. This unique resource will be processed using a new

generation of multivariate statistical analysis to optimize existing imaging technology for the benefit of patients. We will also

develop new imaging technology to enable the direct imaging-based therapeutic modification of neural circuits through rapid

real-time MRI. Our deliverables will promote personalized treatment through more accurate patient stratification, allow

diagnoses at the pre-symptomatic stage for early intervention and prevention, and improve prediction of treatment response

and disease progression.

Financed by
Commission of the European Union

Add publication

Add documents

Specify cooperation partners