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What is PRISM about?

The objective of the PRISM project is to develop a quantitative biological approach to the understanding and classification of neuropsychiatric diseases. By doing so the aim is to accelerate the discovery and development of better treatments for patients, including those suffering from schizophrenia, Alzheimer's disease, and major depression.

By probing the biological brain systems of traditionally diagnosed patients using a wide range of state of the art quantitative technologies, the project will gather data which will then be analysed blind as to the original diagnosis to see if the patients can be clustered and differentiated according to quantitative biological parameters.

The PRISM project (Psychiatric Ratings using Intermediate Stratified Markers), a €16.5m public-private cooperation funded by the Innovative Medicine Initiative (IMI), unites researchers from European academic centres and major pharmaceutical companies.

Current status of the project

In a proof-of-concept study, we aim to define a set of quantifiable biological parameters for social withdrawal and cognitive deficits, and to cluster and differentiate schizophrenia and Alzheimer's disease patients based on the underlying impaired brain biology. In the first six months of the project, assessment tools and instruments have been carefully selected and implemented, study protocols have been generated, and a data management infrastructure has been prepared for the upcoming clinical and pre-clinical deep phenotyping studies to reach these goals.

The launch of the PRISM Project was covered by media outlets around the world, including a feature in Science. The complete Science article, "European mental health project targets biological roots of social withdrawal," can be read here.

For more information about the project, please check the just launched PRISM website: www.prism-project.eu

Meet the scientific coordination team

Dr Hugh Marston
Eli Lilly and Company, United Kingdom
Role in PRISM: Project Leader

Leading the Translational and Integrative Neuroscience group at Lilly's UK research site at Erl Wood, I am fortunate to have teams expert in behaviour, neurochemistry, electrophysiology and amperometry who can both contribute and benefit from the PRISM project. Within Lilly we use these platforms to support our understanding of neurodegenerative processes and explore the potential for neurosymptomatic intervention, as well as develop biomarkers for projects advancing to the clinic. Having trained as a physiological psychopharmacologist with a particular interest in cognitive function, I have a keen interest in developing the ability to reverse and forward translate from human CNS disorders to pre-clinical research. I can also bring to PRISM 25 years' experience in progressing multidisciplinary projects in both academe and industry.

Prof Dr Martien Kas
University of Groningen, the Netherlands
Role in PRISM: Project coordinator

As a professor of Behavioural Neuroscience my research focuses on determinants of behaviour, especially of behavioural strategies and of biological processes that are essential across species and that are affected in various neuropsychiatric disorders. In PRISM, we will implement novel assessment tools for social withdrawal in human and mice using smartphone and automated home cage monitoring, respectively. Furthermore, EEG parameters for sensory processing deficits related to schizophrenia and Alzheimer's disease will be validated. I am a board member and treasurer of the Dutch Neuroscience meeting and the Dutch Neurofederation, editorial board member of Mammalian Genome, and executive committee member of the European College of Neuropsychopharmacology (ECNP). Profile website: http://www.rug.nl/staff/m.j.h.kas/

Prof Dr Brenda W.J.H. Penninx
VU University Medical Center, the Netherlands
Role in PRISM: Coordination team member and WP5 leader

I am a professor in the Department of Psychiatry at VU University Medical Center in Amsterdam. For the last 20 years, I have been involved in several Dutch and international longitudinal cohort studies, and am PI of the Netherlands Study of Depression and Anxiety (NESDA) and lead various treatment intervention studies. Central research themes are genetic, neurobiological and psychosocial risk factors of depression and anxiety disorders, as well as the course and consequences of these disorders. I have published over 700 scientific articles, and lead a research group of nine assistant professors/postdocs, 25 PhD students and more than 20 research assistants. I was recently selected as member of the Royal Netherlands Academy of Arts and Sciences. For more information, visit my personal page (http://www.emgo.nl/team/325/brendapenninx/personal-information/)

Dr Bernd Sommer
Boehringer Ingelheim International, Germany
Role in PRISM: Project Co-Lead

I am the Global Head of CNS Diseases Research at Boehringer Ingelheim. Being responsible for all discovery research in the neurosciences at BI, I early on recognised the disconnect between traditional disease classification and underlying neurobiology as a major barrier to successful drug discovery in neuropsychiatry. As a consequence I have focused BI's drug discovery activities for neuropsychiatric diseases on linking malfunctioning brain circuitry to major neuropsychiatric symptom domains which are manifest across multiple indications. These considerations and efforts have led to the initiation of the IMI2 call from which PRISM was selected. As a trained molecular biologist I contribute more than 20 years of experience in leading and directing multidisciplinary CNS drug discovery units and therapeutic areas in pharmaceutical industry to the PRISM Coordination team.

Related initiatives: EMIF

IMI EMIF project aims to create an environment that allows for efficient re-use of existing health data (EMIF-Platform). It includes the identification and validation of protective and precipitating factors for conversion to Alzheimer's disease (EMIF-AD).

PRISM is linked to EMIF-AD via Dr Pieter Visser, EMIF-AD coordinator, based at VU University Medical Center, partner in both projects. PRISM will make use of the EMIF-AD infrastructure and data sets.

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