

Memory clinic/Oskar Hansson

1. Short description of the infrastructure.

The platform consists of several research nurses, junior medical doctors and administrative personal, who all are engaged in recruitment of study participants and clinical assessments, which include advanced assessments of cognitive, neurological and psychiatric functions. Further, blood, cerebrospinal fluid and skin biopsies are collected. There are several large-scale studies ongoing, including (but not limited to) the Swedish BioFINDER-I (www.biofinder.se) study, BioFINDER-II study, ADelect study, and Motor-ACT, which are among the most well characterized and successful cohorts in the world for Alzheimer disease research with recent publications in e.g. JAMA (IF 56), Nature Medicine (IF 53), Acta Neuropathologica (IF 17), JAMA Neurology (IF 18), Alzheimer's & Dementia (IF 17), Brain (13), and Nature Communication (IF 12).

The **BioFINDER-I study** has recruited 1600 cases spanning from healthy individuals, preclinical AD, different dementia disorders to Parkinsonian disorders, and follow-up is ongoing up to 10 years (see e.g. Palmqvist et al, *Nature Medicine*, 2021; and Janelidze et al, *Nature Medicine*, 2020).

The **BioFINDER-II study** is currently recruiting more than 2500 cases spanning from healthy individuals, preclinical AD, different dementia disorders to Parkinsonian disorders. The study participants are characterized in even more depth compared to BioFINDER-I with tau-PET, amyloid-PET, dopamine-PET and 7T MRI (see e.g. Palmqvist et al, *JAMA*, 2021; and Vogel et al, *Nature Medicine*, 2021).

The **ADetect study** is a unique study performed in primary care recruiting up to 800 study participants. No similar study is done in the world, and the main goal is to develop easy-to-use and accurate diagnostic and prognostic algorithms for neurodegenerative disorders in primary care. This has become urgent, with the recent approval by FDA of the first disease-modifying therapy for Alzheimer's disease.

The **Motor-ACT study** where study participants with PD- and dementia-related disorders undergo thorough investigation of motor function, including different digital measurements.

The platform today exist of 4 very experienced GCP-trained research nurses, who perform advanced cognitive and neurological assessments, blood sampling, assists at lumbar punctures etc; 2 research coordinators (administrators) who coordinate the studies making sure all participants undergo all examinations in time, administer remunerations etc; 3-4 medical doctors performing neurological and psychiatric assessments, lumbar punctures, skin biopsy etc; and 2-3 data managers entering all data into digital format.

Applications by researchers for use of the platform are handled by the steering committee in a similar fashion to the Neurology platform (using a similar template). Besides that, material generated by the platform (e.g. images) might be made available to researchers on a project-to-project bases.

2. Is this infrastructure receiving support also from other Strategic Research Areas (SRAs) or organizations at Lund University (e.g. Medical faculty, LBIC). If yes, please specify the type of support and its amount.

No.

3. Number and names of MultiPark senior researchers using the infrastructure in the period 2018-2020¹.

Research groups using the platform include people from the Memory Clinic and Neurology Clinic, Radiology Clinic, and Wallenberg Center Malmö.

Memory Clinic: Prof. Oskar Hansson, Doc. Sebastian Palmqvist, Prof. Lennart Minthon, Prof. Elisabet Londos, Doc. Håkan Toresson, and Doc. Katarina Nägga.

Neurology Clinic: Doc. Niklas Mattsson, Doc. Ruben Smith.

Radiology Clinic: Doc. Danielle van Westen.

Psychiatry: Doc. Alexander Santillo

Wallenberg Center Malmö: Doc. Malin Wennström.

Health sciences: Doc. Maria Nilsson

Experimental Medicine: Iben Lundgaard

Data acquired the platform are analyzed in collaborations with several groups in Sweden, Europe and around the globe, as well as in collaboration with industrial partners including AC Immune (Switzerland), Roche (Switzerland), Biogen (USA), Eisai (Japan), and Eli Lilly (USA). We are also collaborating with Bill Gates Ventures to make the data open to national and international collaborators.

4. Number and names of senior researchers outside of Multipark and/or non-academic partners using the infrastructure 2018-2020.

See above for industrial collaborators.

5. Does the infrastructure have a steering document accessible to the users? If yes, when was it last updated?²

It was updated in 2021 and is available on an intranet platform. This is continuously updated.

6. Is the infrastructure charging user fees? If yes, state the amount and what is covered by the user fees.

Yes, currently researchers pay appr. 70-75% of the costs and MP appr. 25-30%.

7. List publications generated with the help of this infrastructure during the past 3 years (2018-2020). Do not include manuscripts in preparation and please give the full reference (i.e., complete author list, complete title, journal name with year, volume, pages)³.

¹ If the infrastructure was first established in 2020, please include this information.

² Note that the Multipark leadership may ask to see this document with a very short notice.

³ If the infrastructure was first established in 2020, please include this information here too.

Multipark infrastructure report form 2021

In 2018-2020 the platform contributed to > 200 publications. See attached excel file.