MultiPark infrastructure survey

May 2018

Overview

- Sent out to 48 senior researchers, 33 responded (68,75%)
- Included 26 platforms/infrastructures (one platform missed, one under startup)

- Analysis scoring
  - » Disagree= 1 point
  - » Slightly Disagree= 2 points
  - » Neutral= 3 points
  - » Slightly Agree= 4 points
  - » Agree= 5 points
  - » N.A./don't know: not included in the calculation of mean score

Infrastructure use

Most used infrastructures:

- FACS

- Confocal Microscope, Meso QuickPlex

- Memory Clinic Research Unit staff, Neurology Clinic Research

Unit Nurses

Least used infrastructures:

- Live Cell Imaging

- Neurology Clinic Biobank, Mass Spectometry,

Cell Therapy, Biobank, Abeta and a-syn Production, 2-photon Microscopy

Infrastructure	Number of responders
FACS	10
Confocal Microscope	9
Meso QuickPlex	9
Neurology Clinic Research Unit Nurses	8
Memory Clinic Research Unit Coordinator	8
Memory Clinic Research Unit Medical Doctors	8
Memory Clinic Research Unit Nurses	8
MRI Physicist	7
Cellomics	6
Translational Pharmacology	6
AAV Vector Production	5
Bacterial Lab	5
Lentiviral Lab	5
PET Ligand Production	5
Plate Runner	3
SIMOA	3
Small Molecule Screening	3
Neurology Clinic Research Unit Coordinator	3
Neurology Clinic Research Unit Medical Doctors	3
2-photon Microscope	2
Abeta and a-syn Production	2
Biobank	2
Cell Therapy	2
Mass Spectometry	2
Neurology Clinic Biobank	2
Live Cell Imaging	0

Platforms/infrastructures with no reported issues (scored 5.0 on all questions)

- 2-photon Microscopy

- Bacterial Lab

- Cell Therapy

- Plate Runner

- Small Molecule Screening

- Memory Clinic Research Unit Medical Doctors

- Memory Clinic Research Unit Nurses

Accessibility questions

All

- "I know who to contact to use the infrastructure"

Technical/production/laboratory platforms

- "It is easy for new users to gain access to the infrastructure"

- "The infrastructure is frequently available for my use (eg. there are frequently available time slots, I can quickly get the help of the infrastructure, or similar"

- "I can easily get assistance with the infrastructure (eg. consultation, support, troubleshooting etc)"

Clinical research unit staff

- "I can quickly get access to the service"

Accessibility

	I know who to contact	It is easy to gain access	Frequently available	Easy to gain assistance	Mean score
Confocal Microscope (n=9)	4,9	3,6	3,9	3,3	3,93
AAV Vector Production (n=5)	5	4,8	3,8	3,6	4,30
Mass Spectometry (n=2)	5	4	3,5	5	4,38
Abeta and a-syn Production (n=2)	5	5	5	3,5	4,63
Cellomics (n=6)	5	4,7	4,5	4,6	4,70
Translational Pharmacology (n=6)	5	4,8	4,5	4,8	4,78
SIMOA (n=3)	5	4,7	5	4,5	4,80
Meso QuickPlex (n=9)	4,6	4,8	5	4,9	4,83
FACS (n=10)	5	4,9	4,4	5	4,83
2-photon Microscope (n=2)	5	5	5	5	5,00
Bacterial Lab (n=5)	5	5	5	5	5,00
Biobank (n=2)	5	5	5	5	5,00
Cell Therapy (n=2)	5	5	5	5	5,00
Lentiviral Lab (n=5)	5	5	5	5	5,00
Plate Runner (n=3)	5	5	5	5	5,00
Small Molecule Screening (n=3)	5	5	5	5	5,00

	I know who to contact		Quickly gain access		Mean score
Neurology Clinic Research Unit Medical Doctors (n=3)	4,3		3		3,65
Neurology Clinic Biobank (n=2)	5		4		4,50
Neurology Clinic Research Unit Nurses (n=8)	5		4		4,50
Neurology Clinic Research Unit Coordinator (n=3)	5		4,7		4,85
PET Ligand Production (n=5)	5		4,8		4,90
MRI Physicist (n=7)	5		4,8		4,90
Memory Clinic Research Unit Coordinator (n=8)	5		4,9		4,95
Memory Clinic Research Unit Medical Doctors (n=8)	5		5		5,00
Memory Clinic Research Unit Nurses (n=8)	5		5		5,00

Services/equipment

Technical platforms

- "I'm satisfied with the equipment maintenance of this infrastructure"

- "I'm satisfied with the range of services/equipment that this infrastructure provides"

Platforms focused on production/laboratory services

- "I'm satisfied with the quality of the infrastructure services (eg. quality of manufactured products, or similar)"

- "The infrastructure provides the services/products within reasonable time"

- "I'm satisifed with the range of services this infrastructure provides"

Clinical research unit staff

- "I'm satisfied with the range of services that [staff] provides"

Services/equipment

	Satisfying quality of services	Provides service/product in reasonable time	Satisfying eqiupment maintenance	Good range services/equipment	Mean Score
Confocal Microscope (n=9)			4,1	4,4	4,25
Cellomics (n=6)			4,7	4,7	4,70
Meso QuickPlex (n=9)			4,9	5	4,95
2-photon Microscope (n=2)			5	5	5,00
FACS (n=10)			5	5	5,00
Plate runner (n=3)			5	5	5,00
SIMOA (n=3)			5	5	5,00
AAV Vector Production (n=5)	3,6	3,8		3,8	3,73
Abeta and a-syn Production (n=2)	5	3,5		4,5	4,33
Translational pharmacology (n=6)	4,6	4,6		4,4	4,53
Biobank (n=2)	5	4,5		5	4,83
Lentiviral lab (n=5)	4,8	5		5	4,93
Bacterial lab (n=5)	5	5		5	5,00
Cell Therapy (n=2)	5	5		5	5,00
Mass Spectometry (n=2)	5	5		5	5,00
Small molecule screening (n=3)	5	5		5	5,00
Neurology Clinic Research Unit Medical Doctors (n=3)				3	3,00
Neurology Clinic Research Unit Nurses (n=8)				4,7	4,70
Neurology Clinic Research Unit Coordinator (n=3)				4,7	4,70
MRI physicist (n=7)				4,8	4,80
Memory Clinic Research Unit Coordinator (n=8)				4,9	4,90
Neurology Clinic Biobank (n=2)				5	5,00
PET Ligand Production (n=5)				5	5,00
Memory Clinic Research Unit Medical Doctors (n=8)				5	5,00
Memory Clinic Research Unit Nurses (n=8)				5	5,00

Fees ("The fees for using the infrastructure are reasonable")

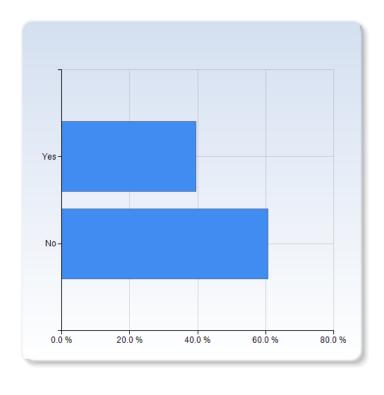| Fees	Score
Neurology Clinic Research Unit Medical Doctors (n=3)	3,00
AAV Vector Production (n=5)	3,40
Confocal Microscope (n=9)	4,00
Memory Clinic Research Unit Coordinator (n=8)	4,30
Neurology Clinic Research Unit Nurses (n=8)	4,40
Cellomics (n=6)	4,50
Lentiviral Lab (n=5)	4,80
Translational Pharmacology (n=6)	4,80
FACS (n=10)	4,90
2-photon Microscope (n=2)	5,00
Abeta and a-syn Production (n=2)	5,00
Bacterial Lab (n=5)	5,00
Biobank (n=2)	5,00
Cell Therapy (n=2)	5,00
Mass Spectometry (n=2)	5,00
Meso QuickPlex (n=9)	5,00
Plate Runner (n=3)	5,00
SIMOA (n=3)	5,00
Small Molecule Screening (n=3)	5,00
Neurology Clinic Biobank (n=2)	5,00
PET Ligand Production (n=5)	5,00
MRI Physicist (n=7)	5,00
Neurology Clinic Research Unit Coordinator (n=3)	5,00
Memory Clinic Research Unit Medical Doctors (n=8)	5,00
Memory Clinic Research Unit Nurses (n=8)	5,00

1=Disagree
2=Disagree Slightly
3=Neutral
4=Agree Slightly
5=Agree

Are there any infrastructures/services you are not using that you would like to use?

Are there any infrastructures/services that you're not using that you WOULD LIKE to use?	Number of Responses
Yes	13 (39.4%)
No	20 (60.6%)
Total	33 (100.0%)

Non-users

Is there any reason you are not interested in using the infrastructures/services (e.g. fees too high, don't know how to access, don't know what they can help with, no need in current research) ?

no need in current research
No need

Suggestions for future infrastructures

Include also the humanistic group

Support of nurses doing MRI scans, because there is a huge lack of MR-nurces in the hospital resulting great difficulties performing MRI scans.

Platform for generation of mouse wt primary neurons: To generate good quality primary neuron cell culture repeatedly takes a lot of hands on experience. Would be good if we could order such neurons to work with in cell culture from a platform.

Behavioral platform. A must for a Neuroscience community . Check how Stanford University organizes.

MR nurse at Bild och Funktion

1. Increased access to MR-physicit (only 50 %)
2. MR technicians/nurses for research studies

MR-sköterska på Bild och Funktion, SUS: I nuläget är det svårt att få MR-sköterskor för våra projekt.
Bioinformatik/genetik: det hade varit användbart med en stödperson/resursperson för vägledning/assistans vid analys av stora datamängder, inklusive genetik/proteomikdata.

An MRI nurse at BoF.

There is a need for dedicated nurses at the MR-section.

More bioinformatics support, as a core facility.

A behavioural platform for rats and mice is absolutely essential . This platform had previously been financed by Bagadilico and the current solution is to finance it by users. This creates an administrative burden and loss of time. Also, when recruiting new researchers to LU (e.g. within the WCMM program on regenerative medicine), it is far more attractive to havea core facility for behavioural tests. Such a facility needs to be easy to book, accessible, have a technician assigned and to take care of the maintenance of the facility. Rent and technician should be mentally financed by Multipark. User fees may apply based on time used.

support for neuroinformatics/mathematical analyses

1) Rat and mice behavioral platform:
This is a basic platform of broad utility previously supported by BAGADILICO. At the very least, Multipark should support a part-time administrative personnel to coordinate and manage booking lists, user tutorials, communications with the suppliers of equipment, problem-reporting to the steering group (appointed by the users), and internal invoicing of user fees.

2) A platform for systems neuroscience:
To maintain international competitiveness, the study of behavioural deficits in animal models of disease need to be complemented with techniques that can stimulate the activity of specific neurons and/or record from specific neurons/brain regions. These techniques include in vivo electrophysiological recordings, optogenetics, and fiber photometry. All of these techniques share some technical requirements (e.g. they are applied to tethered animals, in transparent test chambers, in the proximity of high-capacity hardware) and similar analytical skills. The accessibility and successful implementation of systems neuroscience would be significantly boosted by recruiting a part-time engineer with experience in neuroinformatics.

MR-sköterskor på BoF

Behavioral platform coordination and support

This is missing and in great need of being established:

Infrastructure for Human Brain Biobank and Neuropathology

In vivo facilities

Behavioural platform

electrophysiology platform