MRI Project Policy of PolyU Human MRI Lab

1. Project Application

The principal investigator (PI) must submit a project application and obtain approval from the UBSN before using the human MRI laboratory. The project application must be supported by proof of research funding and human ethics approval, such as the Institutional Review Board (IRB) of The Hong Kong Polytechnic University.

The project application must be sent to the UBSN at celia.dong@polyu.edu.hk (Dr Celia Dong, Scientific Officer) for processing. The documentation format and requirements can be found below. All project applications will go through a standard review process (Annex 1), which will take two to four weeks. The PI may be requested to submit further information and/or present his/her proposed project for review before approval is granted.

Upon approval of the project, email notification will be sent to the PI which includes a validity period. The PI must complete the stated project within the validity period. Before booking an MRI examination session, the PI must arrange for the member(s) of his/her research team to complete MRI safety training. It is strongly recommended that the PI complete the MRI safety training, and it is also recommended that at least one research team member (PI, research personnel, or research student) obtain a secondary user credential to assist the radiographer, MR personnel, or UBSN research staff to conduct the MRI examination. An MRI examination session can be booked online via the UBSN website (https://ubsn.polyu.edu.hk). All members of the research team who are present in the human MRI laboratory must comply with the regulations according to its safety policy and those outlined later in this document.

2. Project Application - Documentation

Below is the list of documents/contents which are required for making the project application (note: the majority of the contents can be extracted directly from the original research proposal supported by the approved research grant and/or the ethics approval):

a. Project title
b. Team members: PI & Co-I
c. Team members with MRI experience or expertise (Please indicate specific areas, such as experiment design, data acquisition, and data analysis)
d. Proposed start and end dates
e. Source and amount of the approved research grant (pertinent to MRI examination)
f. Abstract of study (max. 1/2 page)
g. List of equipment and resources required support from the UBSN (Annex 2)
h. Details of the participants

– inclusion and exclusion criteria, precautions and contraindications

i. Research methods and approach (pertinent to MRI examination, including analytic plan)
j. Project timeline (Gantt chart recommended)
k. Monthly data acquisition schedule (Annex 4)
l. Deliverables/Output/Publication plan (Please provide details on your plan, e.g., by indicating your targeted publications journals or planned conference presentations, and if applicable, specify other types of deliverables such as patents or clinical applications)
m. Project checklist (Annex 3)
n. Information sheet and consent form (IRB approved version)
o. IRB approval letter (PDF only)
p. Research safety approval letter (PDF only)

Please merge all contents and documents into one PDF file.

3. Access to the Control and Scanner Rooms

Only individuals who have undertaken safety training and have a current metal screening form on file are permitted to access the control and scanner rooms. Safety training must be renewed yearly. Likewise, the MRI safety screening form is valid for one year and must be renewed annually. Any change to a person's health and well-being that could result in them being ineligible to enter the scanner room must be reported to the UBSN scientific officer immediately. If there is any doubt, please consult with the UBSN scientific officer. Individuals will receive reminder emails two months prior to the one-year anniversary of safety training and the MRI safety screening to permit plenty of time for renewal. If any individuals fail to renew either their safety training or MRI safety screening form before the respective anniversary date passes, their access to the human MRI lab will be revoked until they are renewed. More details regarding the safety procedures can be found in the MRI Safety Policy of the human MRI lab.

4. Booking and Billing Policies

1. Once a project is approved, the PI or their staff may log in to the booking system to make bookings for the project. Bookings can grow in 30-minute increments.
2. Each PI can book a maximum of four hours per day.
3. (During highly-demanding period only) Each research group can only book:
    1) a max. of 20 hours per calendar month for each PolyU PI;
        a) Projects with external funding can apply for additional booking limitations: adding 1 hour for every HK$ 1 million of funded amount (round off).
        b) A max. of 5 additional hours can be added to each project with relevant supporting document.

2) a max. of 10 hours per calendar month for each collaborative project (PolyU PI with external users);
3) a max. of 5 hours per calendar month for external PI.

4. Bookings can be made at the earliest one month in advance.
5. If a group cannot make a successful booking for 2 consecutive weeks, UBSN will arrange 1 session (for 1 participant) for the group.
6. During the highly-demanding period, booking priority will be granted to PIs with the rank of Assistant Professor or higher. The project with external funding will be given the highest priority.
7. Cancellations made 7-3 days in advance will be charged at 25% of scanning fee. 50% of scanning fee will be charged if cancellation is made 72-48 hours in advance. Cancellations less than 48 hours in advance will be fully charged.
8. If a research group makes cancellations less than 24 hours in advance (or no show) 3 times within a 30-day period, the MRI booking system access right of this group will be suspended for 2 weeks.
9. Bookings will be cancelled without a refund if the users/participants are more than 15 mins late.
10. Each MRI session can be extended by no more than 15 mins if there is a following booking.
11. The UBSN reserves the right to make final decisions on determining which group a user would belong to and whether a discount rate is to be offered to any user.
12. The PI will be billed for the greater of the amount of scanner time reserved, or the actual time used.
13. Monthly invoices will be sent to users for endorsement. Fees of PolyU users will be collected through the Finance Office. Non-PolyU users pay by cheque made out to The Hong Kong Polytechnic University and sent to *Room ZB221, Block Z, University Research Facility in Behavioral and Systems Neuroscience, The Hong Kong Polytechnic University, Hung Hom*.
14. Repeated violations of usage procedures may lead to the suspension of access to the scanner.

5. Billing Adjustments for Technical Problems

If an issue arises from the scanner or any ancillary equipment (visual projection equipment, response boxes, MRI EEG system, eye tracker) provided by the UBSN that prevents data from being acquired, there will be no charge for the lost time. Technical problems must be reported to the UBSN scientific officer within 24 hours of a booking. Issues that are reported 24 hours after a booking will not be eligible for a billing adjustment.

Time lost due to factors within the control of the PI (e.g., participant not showing up, the PI having no available research staff to cover the scan session, claustrophobic subjects who should have been screened out, failure of equipment provided by the PI, etc.) will NOT be reimbursed.

6. Scanning Cost

Rate for PolyU users: 1600 HKD/hour

HKD 2,000/ hr for evening and weekend scanning (by request)
adding 50% service charge if it is not paid by PolyU account

Rate for users from other universities:[1] 5000 HKD/hour

Rate for other external users: 8000 HKD/hour

Sessions at special rates:

1. The UBSN may offer a special charging rate for PIs who lack external and internal research funding support at the discretion of the UBSN director.
2. External users are responsible for any other costs such as additional insurances incurred.

7. Afterhours Scanning

Normal hours of operation are 9:00 – 13:30 & 14:30-18:30 Monday to Friday and 9:30 - 12:30 for every 3 out of 4 Saturdays, public holiday days excepted. Only primary users[2] can book for afterhours scanning. To make an evening or weekend booking, please contact the UBSN scientific officer at ubsn.enquiry@polyu.edu.hk.

8. Equipment Installation

Equipment/software installation in the equipment, control, and scanner rooms that is required for a PI's research program will be facilitated at no cost to the PI. For equipment brought into the scanner room, screening for MR compatibility is required. More details regarding the safety/approval procedures can be found in the MRI Safety Policy of the human MRI lab. To arrange for a booking to facilitate such equipment installation, please contact the UBSN scientific officer at ubsn.enquiry@polyu.edu.hk.

9. Etiquette

No food or drink is permitted in the control room or scanner room. The sole exception to this policy is for projects that require the presence of part of their scientific protocol, e.g., gustatory or olfactory studies.

The time reserved in the booking system is the total time for access to the scanner, not for actual scanning. In each booking, appropriate time must be allocated for both setup and clean

[1] Other universities include UGC-funded universities, self-financed local universities, non-local universities, and the HKSAR government.

[2] Primary users are qualified to operate the MRI system with the minimum supervision from UBSN. The training procedure for primary user can be found in the MRI Safety Policy of the human MRI lab.

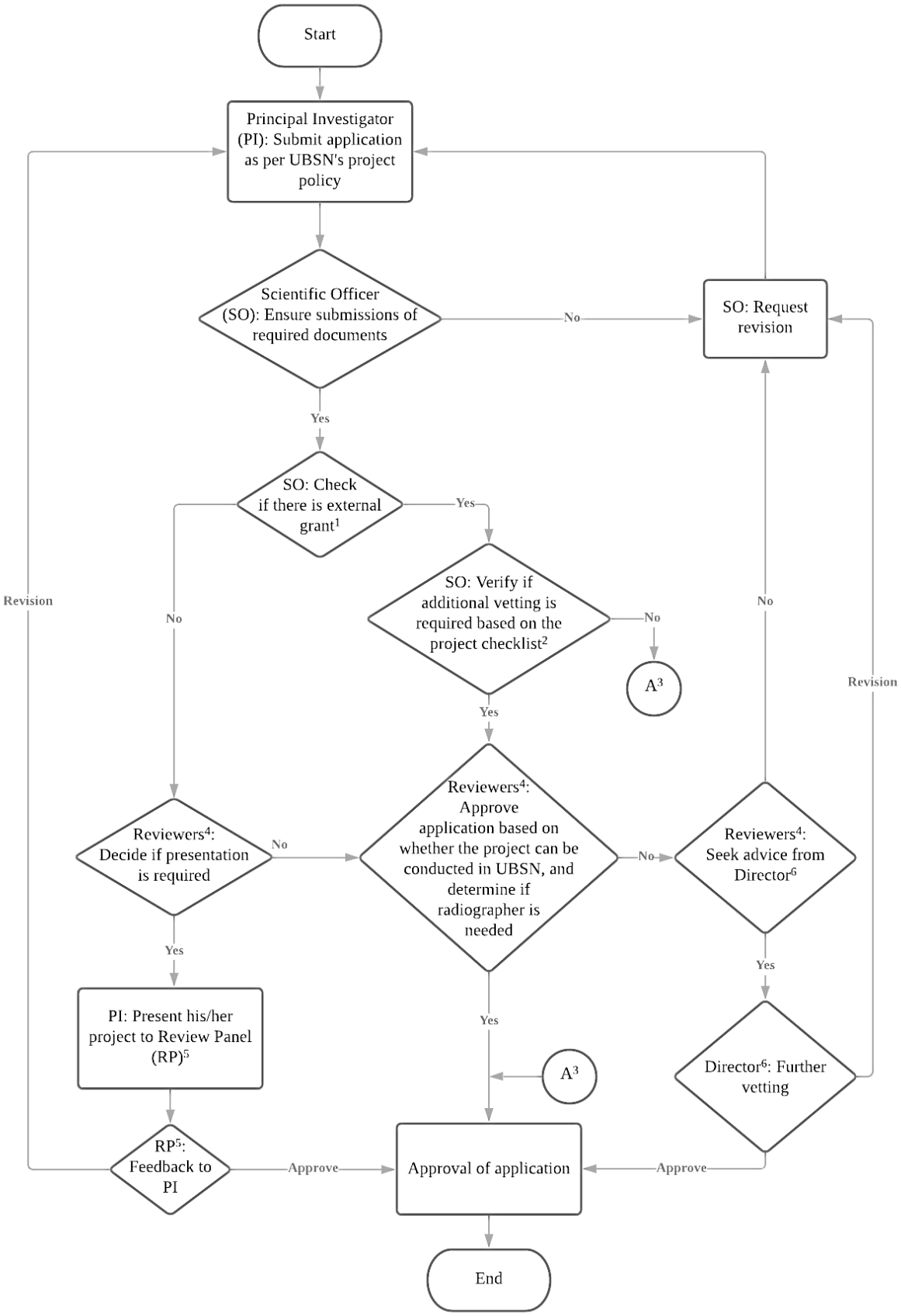
up. You are expected to vacate the scanner promptly at or before the end of your reserved time slot since the next group to reserve time on the scanner is paying for time as soon as their booking begins. The UBSN reserves the right to audit scanner usage and bill for time that was used but not reserved. Users can expect to enter the scanner room at the start of their reserved time slot and to find the scanner clean and ready for use.

In short, please leave all facilities clean and tidy as a courtesy to both UBSN staff and other users of the facility.

For research projects, no more than five people (including the radiographer and other UBSN staff) are permitted in the control room during scan sessions.

In the case of user misconduct or misuse of equipment, appropriate penalties will be imposed on the user. PIs are liable for the repair/replacement cost. More responsibilities can be found in the document *Responsibilities of Principal Investigator*.

Annex 1: Vetting Procedure (Flowchart)



Note:

1. **External grant** refers to external competitive research grants, such as General Research Fund (GRF) and Collaborative Research Fund (CRF).
2. **Project checklist** is the document requiring to be submitted for MRI project application. Please refer to Annex 3 for details.
3. **A** is a connector symbol, which indicates that the flow continues where a matching symbol has been placed.
4. **Reviewers** are members of the review panel. Each application will be evaluated by two reviewers.
5. **Review Panel** consists of MRI experts in PolyU to review all MRI project applications. UBSN will review the panel members and invite new members regularly.
6. **Director** is MR Medical Director in UBSN. His decision will be final.

Annex 2: List of Equipment and Resources

UBSN can provide following equipment and resources:

Coil:

- 32-channel spine coil
- 18-channel large flexible coil
- 18-channel small flexible coil
- 18-channel body coil
- 15-channel knee coil
- 64-channel head/neck coil
- 20-channel head/neck coil
- 32-channel head coil

Phantom:

- ACR Large MRI Phantom
- Hoffman 3D brain Phantom

Peripheral Equipment:

- MRI-compatible Eye Tracker (EyeLink 1000 Plus)
- MRI-compatible EEG (BrainAmp)
- MRI-compatible tES (Soterix)
- MRI-compatible TMS (Magventure)
- MRI-compatible Physiological Monitor (Biopac)
- fMRI Package (Sinorad)
    - Visual & Audio Stimulation System
    - Multi-parametric In-bore Monitoring System
- MRI-compatible 32" Monitor (Cambridge)
- MRI-compatible Model S14 Audio System (Sensimetrics)
- MRI-compatible response pads (Current Designs)
- MRI-compatible 20" wheelchair (Umedco)
- VisualSystem HD (NordicNeuroLab)

Date Analysis System:

- Syngo.via MR Software (Siemens)
- Brain MRI Data Analysis System (HumanBrain)

Radiographer:

Radiographer is required for the research project without primary users. He/she will operate the MRI system and be responsible for MRI safety screening.

Please list the equipment and resource you may need for your project and indicate any foreign items that will be brought into the scanner room.

Annex 3: Project Checklist

Section A – Invasive procedures

Does your project involve invasive procedure(s)? **Yes/No**

Contrast agent injection

Other procedures: _____

If yes, please provide the information of the radiologist:

Full Name: _____ *Qualifications:* _____

Position/Organization: _____

Contact/E-mail: _____

Section B – Types of participants

Participants under 18 **Yes/No**

Please specify the target age group: _____

Participants with diminished cognitive capacity **Yes/No**

Dementia

Developmental disorders

Amnesia

Substance-induced cognitive impairment

Others*:* _____

Participants with diminished communication abilities **Yes/No**

Deaf

Dysphasia

Articulation disorder

Others*:* _____

People requiring assistance **Yes/No**

Major depressive disorder

Bipolar disorder

Schizophrenia

Autism

Hemiplegia

Upper limb disability

Lower limb disability

Others*:* _____

If yes, please specify (optional):

_____

_____

_____

Annex 4: Monthly Data Acquisition Schedule

1. Project information

Participant Population:
Sample Size:
Number of Scans per Participant:
Duration per MRI Session:
Total Scanning Hours*:

2. Monthly schedule

No. of Month	Year	Month	Scanning frequency	Completed sample size	Weekend Scanning Planned	Remark
Example						
1	*2025*	*March*	*4 hrs/week*	*16*	*Yes*	*Prefer Sunday*
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

* Total Scanning Hours = Sample Size x Number of Scans per Participant x Duration per MRI Session