Brain Stimulation Research Center
User Guide - 2027

This document is intended to document the policies and operating procedures for use of the Duke Brain Stimulation Research Center.

BSRC Study Initiation Process:

1. Complete the BSRC Study Initiation Form and submit to BSRC personnel for approval.
2. Meet with BSRC personnel for an initial implementation meeting to establish a study-specific structure for the research design. Researchers should use this time to test external equipment that will be incorporated in the TMS protocol and ensure that the study set-up will be conducive to productive research.
3. Set up billing in CoreResearch@Duke by asking the Financial Manager who is assigned to your study fund code to go through the How to Add a Facility User and Link to a Project guide on the CoreResearch@Duke Facility User Resources page.
4. Once all BSRC Study Initiation activities are completed and the study implementation plan is finalized, users will be granted access to the BSRC calendar to schedule study sessions.

BSRC Rooms:

- The BSRC is located in rooms 54209, 10, 11, and 12 of Duke Hospital South, 5th Floor Red Zone.
- TMS devices are available in rooms 54209, 54210 and 54211.
- BSRC also shares TEST Room 1 with BIAC but there may not be sufficient equipment to run a visit there. If you are interested in running visits in TEST 1 please contact us to discuss.
- It is the BSRC user's responsibility that the rooms and equipment be returned to a clean and organized state after each use. This includes ensuring the stimulation coil is in a safe storage location, turning off all stimulators, logging off of computers, putting Brainsight trackers back in their case, organizing all cables, and sanitizing participant-facing equipment.

BSRC Calendar Booking:

- As in the BSRC Study initiation Form, users should inspect the BSRC space and clarify which room(s) they would like to use for their ENTIRE study; e.g., whether consenting or behavioral testing can take place in the same room as TMS, post-TMS debriefing, etc.
- Bookings "w/Tech service" can be provided from 9AM to 5PM from Monday through Friday.
- When booking rooms for a study session, please schedule a block of time that accurately accounts for all study activities including setup and clean up (this generally takes at least 15 mins before and after session). It is your responsibility to cede the room with the equipment returned back to an organized state.
- The title of a booked BSRC appointment: study abbreviation, subject number, TMS visit number (if applicable), initials of the TMS operator for the session, and location. For Example: Miso_3312_EW_Room10.
- Each room needs to be booked explicitly; unused conference rooms, unlocked offices, etc. are not allowed for use.
- At the end of each session, update the calendar notation to accurately reflect the time used. For Example: Miso_3312 _EW finished at 12:35.
- If the session is cancelled less than 24 hours before, or if the subject does not show up, please indicate it in the calendar. For Example: Miso_3312_EW (no show).
- Individual studies are responsible for ending on time and cleaning up the space; other studies have the right to take the space if the previous session runs over.
- No user may enter the BSRC rooms without a calendar booking. If you need to test or move equipment, please check the calendar and book a user test for yourself. Do not enter the BSRC rooms if there is an active session ongoing unless you are on the protocol for that study.

Cancellation, No-Shows, and Technical Issues

- Cancellations made to the calendar greater than **48** hrs before the scheduled time will not incur a cost.
- Cancellations made less than **48** hrs before the scheduled time will pay for half of the scheduled session.

- If a participant does not show up, or shows up too late to conduct the session, then the user will pay for half of the scheduled session.
- If there are technical issues that are not due to BSRC equipment failure, then the user will pay for half of the scheduled session (e.g., your stimulus code crashes, motor thresholds are too high to continue, subject falls asleep, etc.).
- If there are technical issues that are due to BSRC equipment failure, then the user will not have to pay for any of the scheduled session. However, it is the user's responsibility to report these issues to BSRC personnel to assure that these costs will not be incurred and to inform the BSRC of this equipment issue so that it can be resolved.
- If the session ends early, users will be responsible for all the time booked, not the amount of time that the session ended up taking. If the session runs late and the calendar allows it, the amount of time the session took will be charged. Flexibility for the first several sessions will be allowed, so that users can optimize their TMS protocol and work out any kinks in the data flow.

Data Management

- Brainsight computers have a local login.
    - Username: brainsight
    - Password: rogue123
- Most other computers in BSRC are on the DHE network and can be accessed by logging in with your NetId credentials.
- All data should be de-identified with no PHI stored with saved data.
- Data collected on BSRC computers should be transferred directly to the user's departmental network drive or Duke Box drive.
- You should not need to store data locally. However, if you do, please note that it your responsibility to transfer this data to your storage/network computers. Every first day of the month, BSRC staff will review the memory utilization on each BSRC computer and will send users an email notifying people that it is their responsibility to remove data within one month.

User Testing and Training

- Established users or potential new users who are working directly with BSRC staff may test protocols and procedures within the BSRC rooms at no cost if they follow these conditions:
    - Can only book USERTEST time within 48 hours. The slot must be clearly marked as 'USERTEST' instead of the experiment name. A paid study may remove the USERTEST time if it needs the room and equipment
    - USERTEST timeslots should include the e-mail address of the investigator so another study can notify if it needs to cancel the user test session
    - No more than 100 pulses of low-intensity stimulation (< 40% MSO) may be administered during a user test session. Greater intensities deplete coil pulse counts at a greater rate.
    - No more than two hours can be booked for USERTEST in one day
- Established users can train their staff or students within the BSRC in two ways:
    - For free, if the training is free and advertised for all interested users, the training does not conflict with time needed for paid studies, and the training does not use more than 100 pulses. Only certified TMS users may offer free trainings through the BSRC. Only two free training sessions are allowed per fiscal year per certified user at the center.
    - For the training, which includes access to BSRC staff to support the training procedures. Paid trainings may schedule the BSRC rooms and equipment like a paid study and cannot be removed from the calendar like unpaid or USERTEST times
    - We can offer additional advanced training in selecting personalized neurostimulation targets based on structural and/or functional data, using psychophysiological collection equipment, or writing IRB protocols/grant applications on methods available in the center.
- All operators of neurostimulation equipment and research staff involved in neurostimulation sessions are required to be BLS trained, with an active card that is not expired, as well as to go through the seizure training

course offered in-house. We offer seizure training periodically. If you are interested, don't hesitate to get in touch with the BSRC staff to add your name to the list for the next training session.

COVID Procedures

- While restrictions continue to be in effect because of the COVID Pandemic, users are required to confirm ahead of the visit that any participant entering BSRC rooms can answer "no" to the following questions:
    - In the last month, have you been in contact with someone who was confirmed or suspected to have Coronavirus / COVID-19?
    - In the last 14 days, have you had a COVID-19 test and are under quarantine?
    - Do you have any symptoms of flu-like illness or upper respiratory illness?New onset in the last 10 days of any of the following symptoms: Runny nose, sore throat, cough, shortness of breath, severe headache, fever, muscle aches, fatigue, loss of taste or smell or any GI symptoms (nausea, vomiting, diarrhea)?
- A 15-minute slot is required before and after each experiment to allow for cleaning and disinfecting of the room and equipment (see below for additional guidance). This cleaning involves disinfecting all surfaces that participants and experimenters could be in contact with, including, but not limited to:
    - TMS chair
    - TMS coil and Stimulator
    - Neuronavigation system
    - Desks
    - Computer mouse/keyboard/button boxes
- All BSRC EEG caps must be thoroughly washed and disinfected. Tips for EEG gel syringes must be discarded.
- Users are responsible for sanitizing the room and all equipment used before exiting the space.

BSRC Contact Information

David Bearden, BSRC tech
Office: 54213D
Phone: 919-668-8229
Email: david.bearden@duke.edu

Jessica Choi, BSRC coordinator
Office: Rm 54213D
Phone: 919-684-4432
Email: Jessica.choi@duke.edu

Andrada D. Neacsiu, PhD (BSRC Director)
Office: 2400 Pratt Street,
North Pavilion
6th Floor, Room # 6044
Phone: 919-684-6714
Email: andrada.neacsiu@duke.edu