

BRAIN CREATE: Interdisciplinary Training Program for New Neurotechnologies

Graduate Program Terms of Reference (v.2021.02)

A.1. Statement of Agreement:

BRAIN CREATE is a value-added education program that is geared to Canada's innovation and commercialisation of future neurotechnologies. Neurotechnologies are defined as methods, devices and molecules developed to monitor and/or augment brain and key physiological functions. Key physiological functions may include, but are not limited to, cardiorespiratory control, cerebrovascular regulation, autonomic control, attention, memory and learning, and sleep.

BRAIN CREATE incorporates core elements to maintain minimum academic standards and elective components designed to be as flexible and diverse as possible so as to drive individualized learning and career needs, while maximizing innovation.

BRAIN CREATE provides stipends, see the [Graduate Scholarship Terms of Reference](#) for more information. BRAIN CREATE also provides travel funds to support the academic exchange/work placement/extreme expedition and conference requirements of your program; see below for more information. While BRAIN CREATE-funded trainees will be prioritized if program elements are oversubscribed, financial support is not a prerequisite for trainee or Principal Investigator (PI) involvement maximizing the benefit of BRAIN CREATE across the University of Calgary (UofC) neuroscience community.

As a participant in BRAIN CREATE, I agree to comply with and assist in the execution of the BRAIN CREATE program requirements. These are based on NSERC's Term and Conditions of Award document and summarized below.

Graduate Trainees & Supervisors: Please read and initialize each page and return signed copies to braincreate@ucalgary.ca.

Trainee Name (printed):

Program: MSc PhD

Trainee Name (signature):

Date:

PI Name (printed):

PI Department and Faculty:

PI Name (signature):

Date:

Trainee initials: _____ Supervisor initials: _____

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A.2. Summary of General Terms of Reference as outlined by NSERC:

- 1.** You agree to allow your name to be used in document(s), UofC websites and publicity associated with BRAIN CREATE. Separate permission will be sought for use of images and videos containing participants.
- 2.** You agree that your name and personal information can be used for internal and NSERC reporting purposes. You further agree that UofC can contact you electronically during and after the program to request advice, participation and information to help future programs at the UofC.
- 3.** You will obtain institutional approval Research Ethics Board (REB) prior to beginning research studies involving humans or the use of animals.
- 4.** You will disclose to BRAIN CREATE and the UofC any potential intellectual property (IP) arising from the research.
- 5.** You will endeavour to obtain the greatest possible economic benefit to Canada from commercial activity resulting from the disclosure of any potential IP arising from the research. This requirement for disclosure is not intended to supersede the IP ownership policy that the institution might already have in place.
- 6.** You are required to acknowledge NSERC CREATE in all supported research and activities verbally and in writing. Whenever possible, acknowledge NSERC funding in both English and French.
- 7.** You will assist BRAIN CREATE in its efforts to recruit Indigenous students.
- 8.** You will make every effort to adhere to, and assist with, the approved training plan as outlined in this document.
- 9.** You will assist BRAIN CREATE in running a new journal club on Neurotechnologies and Extreme Physiology.

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B.1. Terms of Reference for Graduate Students receiving BRAIN CREATE Stipends

A summary of the BRAIN CREATE training program for PhD students receiving stipends is illustrated in Figure 1 (below). MSc students have a truncated program (2 years and two graduate courses instead of 4 years and three graduate-level courses) as outlined below.

- 1.** All trainees will attend a boot camp.
- 2.** All trainees will be enrolled in the Neuroscience Graduate Program (MDNS) and abide by Faculty of Graduate Studies rules. Trainees from other programs will be considered pending approval from the Program Directors.
- 3.** All trainees will meet with the Program Directors twice per year for enhanced mentorship.
- 4.** All trainees will attend two problem-based courses: Cellular and Molecular Neuroscience (Fall term; MDSC619.01) and Extreme Physiology and Neurotechnology (Winter term; MDSC755).
- 5.** All PhD students must take at least one additional graduate-level course chosen from across campus in consultation with their Graduate Supervisory Committee and BRAIN CREATE Directors. PhD students in the Neuroscience Graduate Program must take Systems Neuroscience and Neuropathology (Winter term; MDSC619.02). Courses must be completed within the first 18 months.
- 6.** All trainees must participate in a minimum of 5 elective program elements (see Figure 1, below), amounting to a minimum of 40 additional hours a year. Elective program elements include, but are not limited to, an additional 'elective course', academic exchanges and collaborations, Research in Progress, extreme expeditions, technical and professional skills workshops, knowledge translation and innovation workshops, accredited journal clubs, industrial placement and collaborations, and conferences.
- 7.** Trainees are expected to complete at least one of the following: 1) a provincial, national or international academic exchange, 2) a work experience/collaboration/internship in an industrial setting, and/or 3) an experience testing technologies and innovation at geographical, biological or environmental extremes. These may include:
 - Academic exchanges with collaborators: NSERC will look for evidence of trainee participation in academic exchanges off-site or abroad.
 - Collaboration with industrial partners: NSERC will look for evidence of in-depth trainee interaction with industry partners.

Trainee initials: _____ Supervisor initials: _____

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- Extreme expeditions in high altitude and high arctic: NSERC will look for evidence of trainee participation in extreme expeditions.
8. Trainees will participate and present their research at provincial, national and international scientific and/or innovation workshops or conferences.
 9. All trainees will attend at least one journal club each week and make regular presentations.
 10. All trainees must present and participate in Research in Progress talks.
 11. All trainees must belong to and participate in the HBI Trainee Organization.
 12. All trainees must enroll and participate in HBI REALISE.
 13. Exit seminars by trainees are mandatory. Attendance is mandatory for all trainees.
 14. All trainees must track their participation in all core and elective elements of the program as described above. In addition, all trainees must keep track of all awards applied for and received, publications, conferences, meetings, symposia, poster or other presentations, talks, translational activities, and participation in any other HBI education activities. Trainees are required to report on these activities a minimum of four times per year.

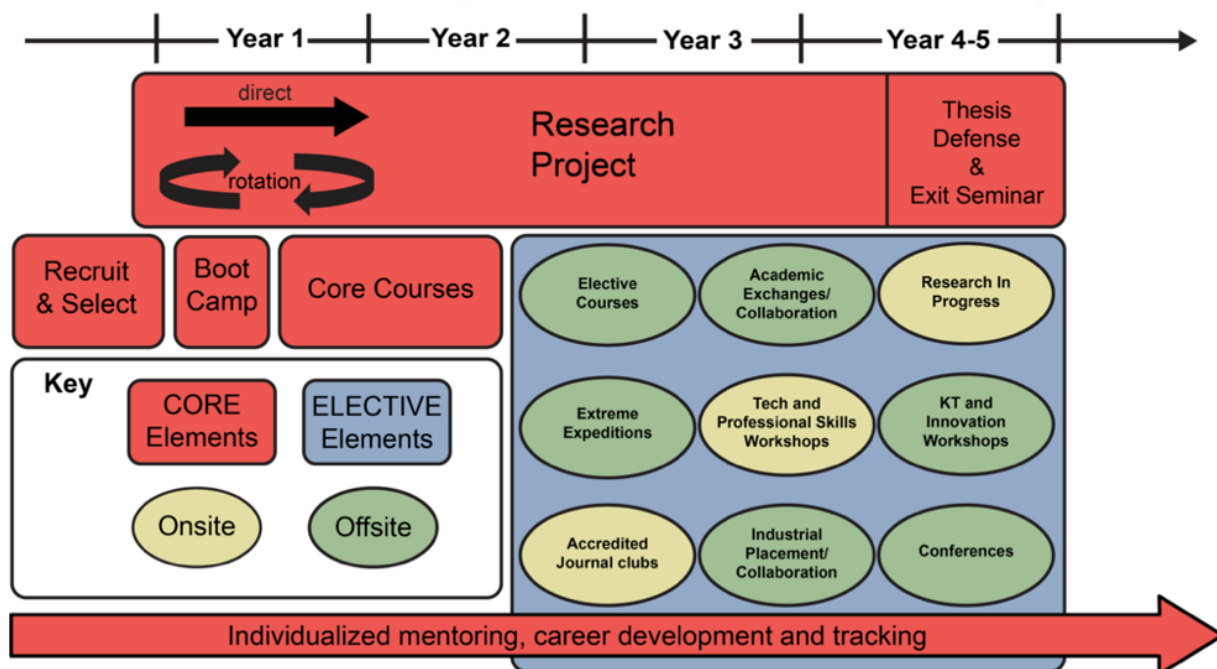


Figure 1: BRAIN CREATE Graduate Trainee Experience

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