



CBR HANDBOOK FOR DOCTORAL STUDENTS

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The Centre for Brain Research (CBR) is an autonomous centre situated in the campus of the Indian Institute of Science (IISc). The Centre for Brain Research (CBR) was established in 2014 at IISc as an institution dedicated to study the numerous aspects of the functioning of the brain. The specific goals of the institution are to discover methods for early diagnosis and intervention strategies to slow down the progression of aging related brain disorders such as Alzheimer's disease.

Research at CBR represents an integrative approach encompassing genetics, imaging, cognition and computational methods, while bringing together large groups with diverse expertise to address the complex challenges of understanding brain functioning in health and disease. The specific and detailed areas of research being carried out at CBR can be viewed from the website: <https://www.cbr.iisc.ac.in/>

CBR is recognised as a Centre for Research by Manipal Academy of Higher Education (MAHE). CBR directly admits students for PhD programme under this recognition. CBR also participates in the PhD programme of IISc, where the students are admitted by IISc under the supervision of IISc faculty and a faculty member from CBR will be co-supervisor.

1 Designation of the Course: Doctor of Philosophy (Ph.D.)

CBR invites applications from highly motivated candidates, willing to take up challenges for addressing research problems associated with ageing and brain related disorders using multidisciplinary approach. The degree awarded to candidates upon satisfactory completion of the prescribed course of study and high-quality novel research leading to impactful research findings and publications for the award of Doctor of Philosophy abbreviated as Ph.D.

2 Academic Calendar

The academic calendar runs from 1st August to 31st July 31. It will have two semesters i.e. August-December and January-May. Admissions to the Ph.D. programme may be conducted twice a year, August and January.

3 Categories of Students

Students admitted directly by CBR will be registered for their Ph.D. through Manipal Academy of Higher Education (formerly Manipal University) and will hereafter be referred to as CBR-MAHE students. Such students will be governed by the Rules and Regulations given in this handbook.

Students admitted by IISc as joint students with a faculty of IISc leading to award of Ph.D. through IISc, referred hereafter as CBR-IISc students, will be governed by the Rules and Regulations of IISc as applicable to Ph.D. programs, in addition to any rules and regulations specified by CBR, from time to time.

4 Eligibility

4.1 Master's degree in any branch of Science, Technology, Pharmacy, Veterinary Science from a recognized University/ Institute

4.2 M.B.B.S.

4.3 B. Tech or equivalent qualifications

Candidates who have appeared for their final semester examination, but are awaiting results, are also eligible to apply.

Candidates who have qualified UGC - CSIR - NET-JRF/ ICMR -JRF / DBT- JRF (BET)/JEST / INSPIRE Fellowship are encouraged to apply.

5 Admission Procedure

5.1 CBR-IISc Ph.D. candidates need to apply to IISc and go through the prescribed selection procedure.

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- 5.2 CBR-MAHE candidates need to apply in response to an advertisement or equivalent procedure issued by CBR.
- 5.2.1 The candidates will be screened by a committee at CBR based primarily on the following factors:
- i. Educational background
 - ii. Skills acquired
 - iii. Performance at national level entrance examinations
 - iv. Other relevant experience
- 5.2.2 The shortlisted candidates will be called for an interview at the Centre for Brain Research. Based on the performance in the interview, the list of selected candidates will be published.
- 5.2.3 The selected candidates will also be intimated at the address provided by the candidate. CBR will not be responsible for postal delays in intimation, or incorrect / unclear email addresses provided by the candidate.
- 5.2.4 Accommodation and/or transportation will not be provided for attending the interview.

6 Duration of Program

- 6.1 The duration of the program will be from the time of registration till the submission of thesis.
- 6.2 The students enrolled in the CBR-MAHE PhD programme are eligible to submit their thesis only after 3 years from the date of registration. Submission before the minimum period will be based on the recommendation of the Doctoral Advisory Committee.
- 6.3 The maximum duration shall not exceed 6 years from the date of registration.

7 Stipend

CBR-IISc Ph.D. students will be paid fellowship. Candidates who have been awarded fellowship from funding agencies such as UGC/CSIR/ICMR/DBT can avail of their fellowship. Other candidates admitted to the CBR-MAHE Ph.D. will be paid an all-inclusive stipend as decided by CBR from time to time. The current fellowship is as follows.

First two years Rs.31,000/-pm
Next three years Rs.35,000/-pm

Stipend will be awarded for a period of 5 years from the date of joining or until award of degree, whichever is earlier.

8 Fees

- 8.1 CBR-MAHE students have to pay the tuition fees as prescribed by CBR, from time to time, Details of the existing fess structure are as follows:

Tuition Fee (Annual)	:	Rs.15,000/-
Statutory Deposit	:	Rs.7,500/-
Other Academic Fees	:	Rs.3,700/-

8.2 In addition, fees payable to MAHE must be paid directly to MAHE

9 Doctoral Advisory Committee (DAC)

9.1 The Doctoral Advisory Committee has to be constituted for each research candidate, consisting of

- i. The Director of CBR or his/her nominee as Chairperson
- ii. Supervisor and co-supervisor, if any
- iii. Two subject experts, who may be from other institutions

* If the Director is the supervisor, a university representative will be the chairperson.

9.2 The candidate should present the research proposal to the DAC

9.3 The committee may recommend/suggest modification/reject the proposal

9.4 If recommended, the candidate's application along with supporting documents has to be sent to MAHE.

9.5 After the approval of MAHE-Ph.D. committee, the DAC will meet twice a year to monitor the progress of research work of the candidate. The candidate has to present the progress to the DAC once in 6 months.

9.6 Every six months, proceedings of the DAC meeting along with the report submitted by the candidate has to be forwarded to the Director, CDS, MAHE.

9.7 At the end of research work, the candidate has to present the complete work to the DAC, called Pre-Synopsis presentation.

9.8 Copies of the DAC recommendation should be sent to the candidate, Director, CDS, MAHE and Registrar-Evaluation, MAHE.

9.9 Obligation of DAC

The members of the DAC have to be proactive in enhancing the quality of the research work, publications and thesis through periodic evaluation. The DAC meeting must be conducted with a minimum of 4 members participating. Specific functions:

- a) To review the research proposal and finalize the topic of research
- b) To guide the research scholar to develop the study design and methodology of research and identify the course(s) that he/she may have to do.
- c) To periodically review and assist in the progress of the research work of the research scholar
- d) A research scholar shall appear before the Doctoral Advisory Committee once in six months to make a presentation of the progress of his/her work for evaluation and further guidance.

- e) In case the progress of the research scholar is unsatisfactory, the Doctoral Advisory Committee shall record the reasons for the same and suggest corrective measures.
- f) If the research scholar fails to implement these corrective measures, the Doctoral Advisory Committee may recommend to the University with specific reasons for cancellation of the registration of the research scholar

10 Course Work Requirements

- 10.1 CBR-MAHE Ph.D. students with Masters degree have to complete course work of 12 credits during the first year of research work.
- 10.2 Students with a B.Tech. degree or equivalent must complete 24 credits
- 10.3 The course work must include “Research Methodology” as one of the courses with a minimum of 4 credit.

The specific courses pertaining to thesis work may be in the form of hands on training/attending workshops / Massive Open Online Courses suggested by the DAC. Some of the credits can be obtained through course work done outside CBR, preferably in a well-known research institute, pertaining to the candidates' area of research.

- 10.4 PhD candidate should complete the coursework With a minimum grade of C in a 10 point grading system.
- 10.5 If the candidate does not qualify in two courses then the candidate will have to discontinue the programme.
- 10.6 CBR will issue the comprehensive grade sheet, in the format specified by the university, to the candidate after successful completion of course work by the candidate, a copy of which is to be sent to MAHE.
- 10.7 A seminar related to the research work has to be given by the Ph.D. candidate on completion of research work, before submission of synopsis and thesis, at CBR, which is open to all and mandatory for the DAC members to participate.

11 Registration

- 11.1 Every student of CBR-MAHE Ph.D. program is required to register with MAHE as a Ph.D. candidate. This should be done after completion of course work but not later than 2 years from date of admission.
- 11.2 A guide/co-guide as recognized by MAHE needs to be finalized.
- 11.3 The procedure of registration involves submission of the documents as decided by the policies of MAHE in force at the time of registration. These include:
 - a) Application in the prescribed format
 - b) Copies of the qualifying degree certificate
 - c) Copies of the marks/grade sheets of the qualifying degree

- d) Two copies of the research proposal in the prescribed format (soft black bound, 15-20 pages)
- e) Soft copy of the research proposal
- f) Plagiarism check / Similarity index report signed by the candidate and supervisor
- g) Copies of ethics approval as required by the research protocol

The research proposal should highlight the proposed research plan clearly stating the following

- a) Introduction to the proposed research
- b) Literature survey
- c) Research gaps identified
- d) Objectives
- e) Detailed methodology
- f) Expected outcomes
- g) Importance of the proposed research
- h) Research plan schedule
- i) Pilot study/ Preliminary work done
- j) Expenses and funding
- k) References

11.4 The research proposal should be self-explanatory, about 10-15 pages, printed on A4 size paper, 1 inch margin on all sides with soft black bound. Font size for headings should be 14 Bold, sub-headings should be 12 Bold and text should be 12 normal with 1.5 spacing. The references should follow a standard format and all references should be cited in the text.

11.5 If the proposal involves use of animals or human subjects/materials, proper ethical approval should be submitted along with the application

11.6 If the proposal involves use of transgenics / recombinant DNA technology, institutional bio-safety committee approval should be submitted.

The Director, CBR/ Research Supervisor will arrange for a protocol presentation by the candidate. The DAC should be a part of this meeting. It is advisable to have an external member to be a part of this meeting in order to get an outsider's perspective and feedback. Participation of this member through online mode is acceptable. Once the proposal is accepted, CBR will send the necessary documents to MAHE. The student will be required to present the research proposal to the MAHE-Ph.D Protocol Approval Committee (PPAC) on a date notified by the University.

11.7 Presence of Supervisor/Co-Supervisor is mandatory during the presentation.

11.8 Final registration will be permitted after approval by the MAHE – PPAC

11.9 If approved, the date of presentation at MAHE - Ph.D. Committee will be the date of registration.

11.10 If modifications are suggested, date of submitting the modified proposal to the Office of Deputy Registration, MAHE will be the date of Registration

12 Progress Report

- 12.1 The candidate has to submit the progress report of the research to the Director, CBR, every six months through proper channel.
- 12.2 The progress report must contain the details of the work carried out in the previous six months. It should be explanatory in about 10 -12 pages/3000-3500 words and should be soft, back bound.
- 12.3 The progress report has to be shared with the DAC members prior to the presentation.
- 12.4 Supervisor will arrange for the meeting of DAC. The candidate has to present the progress of the research to the DAC on the prescribed date.
- 12.5 The following documents need to be forwarded to the, MAHE:
 - i. Copy of the signature sheet of DAC meeting
 - ii. Recommendations of the DAC
 - iii. One copy of the progress report

13 Synopsis Submission Guidelines

- 13.1 The candidate has to give an open pre-synopsis presentation at CBR. It should be notified well in advance to enable participation of other researchers. The presence of DAC members in this meeting is mandatory.
- 13.2 Two first author journal publications indexed in SCOPUS or Web of Science, in the field of research are mandatory for submitting the synopsis and thesis. The publications shall be related to the subject of the thesis. One of the two papers could be a review paper. Quality of the paper: If a candidate has ONE original article as first author in a journal in first quartile, with impact factor more than 3, he/she will be allowed to submit the thesis. The articles must be published/ accepted for publication before submission of thesis to Registrar-Evaluation.
- 13.3 Ph.D. scholars must make two paper presentations in conferences/seminars before the submission of the dissertation/thesis for adjudication, and produce evidence for the same in the form of presentation certificates and/or reprints.
- 13.4 The DAC must approve the synopsis by analysing the contribution of the research in the form of visible outputs like Publications, Patents, etc. or suggest modifications.
- 13.5 The candidate has to incorporate all the suggestions of DAC before submission of the synopsis.
- 13.6 The following documents are to be sent to MAHE
 - i. DAC recommendations
 - ii. Copies of 2 publications having MAHE affiliation
 - iii. Copies of conference attendance certificates
 - iv. Plagiarism check/Similarity index report with the signatures of the candidate and supervisor.
 - v. 2 hard copies of synopsis
 - vi. One soft copy in PDF format along with thesis

14 Thesis Submission Requirements

- 14.1 At the end of the research, students presents the entire work to the DAC, known as pre-synopsis presentation
- 14.2 CBR-MAHE Ph.D. students should submit the following documents to MAHE for further processing of the thesis
 - i. 2 hard copies of synopsis along with one soft copy in pdf format
 - ii. 2 copies of the thesis in bound form, and one soft copy in pdf format
 - iii. Recommendations of the DAC committee at the colloquium
 - iv. One-page synopsis of the thesis
 - v. Copies/Reprints of peer-reviewed publications in international journals/conferences
 - vi. Copies of conference attendance certificates
 - vii. No dues certificate from relevant departments
 - viii. Submission of Documented code / datasets in appropriate format Panel of examiners in consultation with the DAC.

15 Thesis Evaluation

- 15.1 CBR-MAHE students will follow the procedure for constitution, evaluation and recommendation for acceptance of thesis according to the applicable rules prevailing in MAHE at the time of submission.
- 15.2 Supervisors in consultation with DAC shall submit the panel of examiners at least one month prior to expected date of submission of the thesis.
- 15.3 If the thesis is rejected by the examiners, it will stand rejected and shall not be referred to any other examiner.
- 15.4 In the event that the thesis is rejected by only one examiner, it will be referred to another examiner from the approved panel. In case the thesis is approved by this examiner, it will be considered as unanimously approved.
- 15.5 If one or more examiners recommend re-submission of the thesis after modifications, it shall be done within a maximum period of six months from the date on which the candidate is so informed by the university. In case of re-submission / rejection / modifications, the candidate has to submit one soft copy of the thesis in PDF format (one or more files of less than 10 MB each)
- 15.6 After the thesis has been approved by the examiners, a public defence of the thesis will be held, as well as the viva voce examination to adjudge the general proficiency of the candidate in the field of research work.
- 15.7 At the viva voce examination, the candidate's general proficiency in the subjects allied to the field of study shall also be evaluated.

- 15.8 The candidate shall be entitled to appear at the open defence of thesis and viva voce examination only if the thesis is unanimously approved by the Board of Examiners.
- 15.9 When the thesis is approved, the candidate has to submit one copy of the final approved thesis copy to CBR in addition to any other submissions for the award of degree.
- 15.10 CBR-IISc students will follow the procedure for constitution, evaluation and recommendation for acceptance of thesis according to the applicable rules prevailing in IISc at the time of submission.

16 Award of Degree

- 16.1 CBR-MAHE candidates shall be declared eligible for the award of the degree of Doctor of Philosophy, only on the unanimous recommendations of the members of the board of examiners after the viva voce examination.
- 16.2 In case, the examiners are not satisfied with the performance of the candidate in the above examinations, the candidate shall be required to reappear for another viva-voce examination after a period of two months provided such specific recommendation is made by the board of examiners.

17 Publication of Thesis

- 17.1 The thesis shall not be published as a whole, without the permission of the University.
- 17.2 The university may grant permission for the publication under such conditions as it may impose.

18 Cancellation of Registration

- 18.1 The candidate is liable to have his/her registration cancelled if
 - i. The thesis is not submitted at the end of the maximum time period after registration OR
 - ii. If the progress is deemed unsatisfactory at the end of an academic probation and the DAC recommends cancellation of registration.
- 18.2 A candidate whose registration has been cancelled must follow the procedures listed in the exit policy towards clearing all dues.

19 Facilities to Students

- 19.1 Accommodation:
 - a. CBR-MAHE students must make their own accommodation arrangement.

19.2 Medical Insurance

- b. Students are covered under the Janata Mediclaim policy of the New India Assurance Company with an individual coverage of Rs. 75000 per annum from the month of the year in which they join until the end of their fellowship.

20 Leave Provisions

- i. Annual leave : 30 days per annum
- ii. Sick leave for hospitalization : 10 days
- iii. Maternity leave : 180 days once during studentship

21 Code of Conduct

CBR students are expected to work full time on their research projects and are not allowed to take up any employment or assignment during this period.

Any leave of absence from work must be applied for in advance through proper forms or informed through a written message to the supervisor in case of emergency. Leave of absence without proper intimation is viewed seriously and may lead to cancellation of registration

The work conducted by candidates while affiliated to CBR remains the intellectual property of CBR, and must not be published, shared or transferred outside the premises of CBR without explicit permission.

22 Exit Policy

The submission of thesis to CBR represents the end point of the student's formal association with CBR. However, CBR will help to complete the necessary procedures prescribed by the University, including conducting the viva voce, until the doctorate is awarded.

22.1 Leaving before submission

The dissertation should normally be submitted to the institute before a student leaves CBR. However, if the candidate has a job offer which cannot be turned down without being detrimental to the candidate's future, s/he may apply to the institute for special permission to leave the doctoral program before completion. The application must be supported by a letter from the supervisor and endorsed by the Doctoral Advisory Committee. The date of final submission of the thesis cannot be longer than 6 months from the date of leaving the institute.

22.2 Clearing of Dues

In all cases, the candidate must clear all dues to CBR at the time of leaving the institute. This includes returning all material belonging to CBR, including research results, well-documented code, unencrypted data, borrowed equipment / books. Cost or replacement for any items lost or damaged may be recovered by the candidate.

23 Originality of Work

The student is expected to adhere to the following minimum academic conduct whilst they are a student of CBR including:

- 23.1 Ensuring that any material that they may submit towards academic evaluation will meet the standards of integrity required by the institute
- 23.2 Ensuring that any material that they may submit will be their own unless collaborative teamwork is authorized by the institute
- 23.3 Not using or possessing in an examination any material or device not permitted by the examiner
- 23.4 Not resorting to any form of dishonesty or plagiarism as stated by the MAHE academic guidelines (Annexure I) understanding that if discovered and proven, they will immediately and forthwith be debarred from participating in any academic pursuit with the institute.