



PhD Program

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Contents

1. INTRODUCTION.....	3
2. PARTICIPANTS.....	3
2.1 Applicant.....	3
2.2 Supervisor	3
2.3 Co-Supervisor	3
2.4 Funding Agency.....	3
3. DURATION	3
3.1 Regular.....	3
3.2 Grace Period	4
4. SPONSORSHIP	4
4.1 Cost of experiments.....	4
4.2 Registration and Student-ship Fees and associated cost.....	4
4.3 Stay at Manipal.....	4
4.4 Fellowship of the student	4
5. Research Project.....	4
6. PROCEDURE AT A GLANCE	5
7. ELIGIBILITY, APPLICATION AND SELECTION.....	5
7.1 Eligibility.....	5
7.2 Intention	5

7.3	Application.....	6
7.4	Selection.....	6
8.	REGISTRATION.....	6
8.1	Research Proposal	6
I.	6
8.2	Formation of Doctoral Advisory Committee (DAC).....	7
8.3	Submission of Proposal	8
8.4	Payment of Fees.....	9
9.	RESEARCH AND REVIEW	9
9.1	Course Work.....	9
9.2	Internal Review.....	10
9.3	Peer Review.....	11
9.4	Cancellation	11
10.	COMPLETION.....	12
10.1	Submission of Synopsis	12
10.2	Thesis submission and Evaluation.....	12
10.3	Award of Degree	14
11.	ANNEXURE	14
11.1	Annexure I: Format of Cover Letter from HOD.....	14
11.2	Annexure II: Composition and Recommendation of the DAC.....	14
11.3	Annexure III: Application to MAHE	14

1. INTRODUCTION

Mazumdar Shaw Medical Foundation (MSMF) offers PhD Program and the degree is awarded by Manipal Academy of Higher Education (MAHE). This document serves as the guideline to be followed by the applicants and guides to participate in the program.

2. PARTICIPANTS

2.1 Applicant

- Students with (i) Masters degree in any branch of science or (ii) BTech degree in any branch of Technology or (iii) MBBS or (iv) BDS or (v) Pharm D can apply throughout the year

2.2 Supervisor

- A laboratory head (Principal Investigator) approved by MAHE is eligible to guide the applicant
- A practicing doctor from Narayana Health (NH) with sufficient research experience (more than 5 publications in peer reviewed journal or with a PhD degree) may be approved as a guide by MAHE. However, the doctor cannot be an independent supervisor, must have an approved laboratory head as a co-supervisor.
- The host clinical organization of the practicing doctor should have an agreement and/or MOU with the research organization of the Co-Supervisor
- A supervisor can enroll 2 candidates per calendar year and can have a maximum of 8 PhD students at a time.

2.3 Co-Supervisor

A laboratory head approved by MAHE can co-sponsor the research work in an approved laboratory and guide the applicant

2.4 Funding Agency

A funding agency, government, private or public industry can participate in this program by sponsoring the candidate and the project

Percentage of IP right will be determined on the basis of individual project.

3. DURATION

3.1 Regular

- Minimum 4 years with a maximum extension of 2 more years for practicing clinicians.
- Minimum 3 years with a maximum extension of 2 more years for all other candidates.

3.2 Grace Period

- Two months grace period will be given for thesis submission after the due date for submission. This grace period is not applicable to the candidates who have taken extension.
- The Program duration may be extended beyond the stipulated time on the recommendation of DAC if there are genuine reasons. However, the approval for extension must be obtained from the university.
- Additional course fee has to be paid by the candidate for the extended period at prorated monthly.

4. SPONSORSHIP

4.1 Cost of experiments

- Cost of the experiments should be supported through an external funding.
- A letter from the funder should be submitted to the academic ethics committee

4.2 Registration and Student-ship Fees and associated cost

Registration, studentship and all associated costs (Travel to MAHE etc) will be borne by the applicant personally or through own fund or through an approved grant for the PhD project from an external agency

4.3 Stay at Manipal

MAHE will provide accommodation for the student and the guide/co guide during the registration or thesis submission procedure

4.4 Fellowship of the student

- Applicants are preferred to have their own fellowships through CSIR, DBT or ICMR entrance tests
- Will be borne by the supervisor or co-supervisor from an external grant
- Will be borne by the supervisor or co-supervisor through the MSMF grant for a maximum of 5 years

5. Research Project

MSMF encourages and supports translational research of clinical importance which should help the patients through product and/or process. Since quick translation from bench to bedside is of utmost priority, choice of project should abide by the following criteria

- It should be a clinically relevant project
- The clinical importance should be endorsed by a committee of competent clinicians

- Feasibility to translate the project (at least a part of it) into a product or clinically relevant process is encouraged to be demonstrated by documented expression of interest by a viable industry, if the project is funded only by MSMF.
- Intellectual property position (novelty) of the project should be certified by a patent lawyer with an updated prior-art search report
- Financial viability of the project should be ensured by securing funding from an external agency and a declaration by the supervisor
- Scientific novelty and feasibility will be ensured by the doctoral advisory committee
- The project should be approved by the academic ethics committee within one year of registration

6. PROCEDURE AT A GLANCE

1. Eligibility, Application and Selection: Eligible candidates can apply any time and will be selected through an interview at the organization as detailed in section 7.
2. Registration –
 - a. The research proposal (as per section 5) has to be chosen and penned by the candidate, supervisor and co-supervisor as detailed in section 8.1
 - b. Formation of Internal-DAC (without the external expert) – DAC should be formed by the PhD Program coordinator as per section 8.2
 - c. Submission of Proposal – Detailed in section 8.3
 - d. Payment of fees – Detailed in section 8.4
 - e. Cancellation of registration – Detailed in section 8.5
3. Course Work – Detailed in section 9
4. Research and Review -Detailed in section 9
5. Completion and Award of degree – Detailed in section 10

Any deviation from the procedure should be informed to the Director of Centre for Doctoral Studies at MAHE through the Research Program Coordinator

7. ELIGIBILITY, APPLICATION AND SELECTION

7.1 Eligibility

- Students with at least a Masters degree in any branch of science or BTech degree in any branch of Technology or MBBS or BDS or Pharm D can apply
- Applicants with their own CSIR, DBT or ICMR fellowships are encouraged to apply

7.2 Intention

- Candidates aspiring to do PhD at the organization should approach the PI of their choice and confirm project funding and interest in the project before applying

7.3 Application

- Candidates can apply any time of the year to the chosen supervisor

7.4 Selection

- In order to get selected for PhD the applicants must pass an interview
- The interview will be on general attitude towards science and scientific aptitude consisting of the following topics
 - Basic statistics
 - Basic Chemistry: Buffering actions, Expression of Concentrations, Protein Detection methods, Nucleic Acid Detection Methods
 - Instrumentation : Centrifuge, Spectrophotometer&Nanodrop, Microscope, PCR machine
 - Cell Biology : Tumorigenicity Assays
 - Molecular Biology: Replication, Transcription, Translation, Cell Division
- Practising clinicians will be exempted from the interview
- Upon clearing the second interview the applicant can prepare for presentation of PhD proposal to the internal DAC

8. REGISTRATION

Registration to a PhD program is a multistep procedure as detailed below.

- a. Presentation of the Proposal and approval by internal DAC – Detailed in section 8.3
- b. Presentation of the proposal to the PhD committee at MAHE, Manipal - Detailed in section 8.4
- c. Registration – Detailed in section 8.5

8.1 Research Proposal

A clinically relevant research proposal as detailed in section 5 has to be chosen and penned by the candidate with the approval of the supervisor and co-supervisor.

8.1.1. Content

The research proposal should highlight the following content.

Section	Heading (Details)
I.	Introduction to the proposed research (Abstract of the proposal)
II.	Literature survey
III.	Clinical Relevance of the study
IV.	Aims and Objectives (Two Aims with multiple objectives under each aim)
V.	Detailed methodology (For each objective)
VI.	Research plan schedule (Gantt Chart)
VII.	Pilot study/Preliminary work done

VIII.	Expenses and funding
IX.	Perceived translational outcome and generation of IP
X.	References

8.1.2. Format

The research proposal should be 10 to 15 pages, printed on A4 size paper, 1 inch margins on all the sides with black soft bind. Font size for headings should be 14 Bold, subheadings should be 12 Bold and text should be 12 normal with 1.5 line spacing. The references should follow a standard

8.1.3. Regulatory Documents

- If the proposal involves use of animals or human subjects/materials, proper ethical approval should be submitted within three month of registration.
- If the proposal involves use of transgenics or recombinant DNA technology, institutional bio- safety committee approval should be submitted within three month of registration

8.2 Formation of Doctoral Advisory Committee (DAC)

The Research Program coordinator in consultation with the supervisor will form a Doctoral Advisory Committee (DAC) for each candidate.

8.2.1. Composition

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

- a) Chairman (Head of the Institution or Head of the Department)*
- b) Research Coordinator for Ph.D.Program
- c) Supervisor
- d) Co-Supervisor (if required)
- e) One or Two Subject Experts (from another reputed university or hospital) – Should be included after the candidate had registered for PhD
- f) A clinician of eminence as collaborator
- g) A person from the industry providing the letter of intent to take the responsibility of translation - (optional, depending on the state of the project)

*If the HOI or HOD is the supervisor, the program coordinator will be the chairperson.

8.2.2. Obligation and Functioning of DAC

- The research program coordinator and 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 prior to registration with all members (except the external expert), with a minimum of 4 members for every review meeting (External expert can join on Skype) and all members for the synopsis presentation

- The committee may suggest modification or reject the proposal or progress report or synopsis of the thesis.
- Proceedings of the DAC meeting along with the proposal or report or synopsis has to be forwarded to the Centre for Doctoral Studies [MAHE] <cds.mahe@manipal.edu> by the candidate through the Research Program Coordinator.

8.3 Submission of Proposal

8.3.1 Presentation to DAC

The Supervisor will arrange for presentation of the proposal by the candidate to the DAC. The DAC should evaluate

- Clinical Relevance of the project endorsed by an eminent clinician
- Feasibility to translate the project (at least a part of it) into a product or clinically relevant process. Demonstration by documented expression of interest by a viable industry is encouraged.
- Intellectual property position (novelty) of the project, certified by a patent lawyer with an updated prior-art search report
- Financial viability of the project, ensured by securing funding from an external agency and a declaration by the supervisor
- Scientific novelty and feasibility

The DAC might call for a repeat presentation or suggest changes before submission. Upon incorporation of the final suggestion, the candidate will send the following documents through the Coordinator to The Director, Centre for Doctoral Studies [MAHE] <cds.mahe@manipal.edu>, Manipal University, 3rd Floor, University building, Madhav Nagar, Manipal 576104, Karnataka

- Covering letter from the Head of the Institution and/or Research Coordinator (Annexure I)
- Recommendations of the DAC with list of DAC members with address, phone number, e-mail ID and signature (Annexure II)
- Application in the prescribed format with signature of all participants (Annexure III)
- Resume of the candidate
- Copies of the degree certificate
- Copies of the marks sheets
- Two copies of the research proposal (soft, black bound, 15-20 pages)
- Soft copy of the research proposal
- Plagiarism check/Similarity index report signed by the candidate and supervisor and cosupervisor

8.3.2 Presentation to PhD Committee, MAHE, Manipal

Within 4-6 weeks after submission, the candidate will be called to present the research proposal to the MAHE-Ph.D. Protocol Approval Committee (PPAC) on a date notified by the University. Presence of Supervisor/Co-Supervisor is mandatory during the presentation. Final registration will be permitted after approval by the PPAC. If approved, the date of presentation at MAHE - Ph.D. Committee will be the date of registration. If modifications are suggested, date of submitting the modified proposal to the Office of Deputy Registrar Academics, MU will be the date of Registration.

8.4 Payment of Fees

The candidate has to pay the prescribed fee every year to MAHE through online transfer. The details for online transfer are given below:

Beneficiary Name & Address	Manipal Academy of Higher Education
Bank Account Number	007201000089
Name of Bank	ICICI Bank Ltd
Branch Name & Address	Manipal Branch Kasturba Hospital Complex, Main Road Manipal-576104, Udupi District
RTGS/NEFT IFSC Code	ICIC0000072
MICR Code	576229002
Account Type	SB
Swift Code	ICICINBBXXX
E-mail Intimation	sfin.fee@manipal.edu ; sfin.mahe@manipal.edu

9. RESEARCH AND REVIEW

PhD students have to be prepared for, guided through and regularly reviewed for the research work. Research work has to be regularly (at least once a month) reviewed by the supervisor and co-supervisor and twice a year by the DAC.

9.1 Course Work

- UGC mandates students to take courses totaling to at least 12 credits for getting a PhD degree.
- Students are encouraged to take online and/or courses/workshops at other institutes provided the duration of the course or workshop is at least for 14-16 hours and an evaluation certificate or transcript is provided.
- Courses should include Research Methodologies, Scientific Writing, Research and Publication Ethics and Essential Theory

- Publication of a scientific paper as a result of the direct training in the course/workshop is also considered as evaluation of the course.
- In addition, MSMF may also offer a few courses throughout the year which will be notified at the beginning of a year.

9.1.1 Courses

- Courses will be announced by end of Jan and evaluations will be done by December
- PhD student has to qualify (C grade) in courses of at least 12 credits within 2 years of registration.
- One credit point should correspond to 16 learning hours.

9.1.2 Grades

SCALE			
S	>91%	S	Excellent
A	81-90%	A	V.Good
B	71-80%	B	Average
C	56-70%	C	Qualify
D	<55%	D	Repeat Course(Fail)

9.1.3 Evaluation and Grades

- The student has to score a minimum of 71% or B grade in 50% of the modules and A grade (81%) or above in 25% of the modules to qualify for the credits in order to be eligible to continue in the program and submit the dissertation/thesis.
- Depending on the student's background and the quality of the examination the PhD supervisor/Cosupervisor has the discretion of deciding in which courses the student can get a B grade (strictly at least in 50% of the courses).
- The DAC Chairman 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 Centre for Doctoral Studies [MAHE] <cds.mahe@manipal.edu>, Manipal University.

9.2 Internal Review

In order to ensure smooth progress of the work the research findings need to be reviewed by the DAC periodically

- The candidate has to submit the progress report of the research to the Centre for Doctoral Studies [MAHE] <cds.mahe@manipal.edu> every six months through proper channel (the DAC including the external expert).

- The six-monthly progress report must highlight the work carried out in the previous six months. It should be explanatory in a maximum of 10-12 pages/3000-3500 words and may be soft, black bound,
- The annual report should be detailed and contain the cumulative work done, preferably arranged as per the thesis
 - The following documents need to be forwarded to the Centre for Doctoral Studies [MAHE] <cds.mahe@manipal.edu> Recommendations of the DAC with signature of all DAC members
 - One copy of the progress report
- A work presentation once a year in front of the DAC is mandatory. DAC might ask want the presentation to be open to all.
- The registration of the candidate will be cancelled if the candidate fails to have two consecutive progress report.

9.3 Peer Review

9.3.1 Publication

At least two publications in journals with impact factor not less than 3.0 in the field of research are mandatory for submission of 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. The candidate should be the first author in both publications. The articles may be published/ accepted for publication before submission to Registrar-Evaluation.

9.3.2 Conference

Ph.D. scholars must make two paper and/or poster 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.

9.3.3 Patents

The scholar is encouraged to have at least one patent during the course of Ph.D. training

9.4 Cancellation

- Registration will be cancelled if the candidate fails to obtain a B grade in at least 6 credits and A in at least 6 credits within the first two years of registration.

- Registration will be cancelled if there is no progress in work as evidenced by non-submission of progress reports/recommendation of the DAC at least once a year.
- Registration will be cancelled if the candidate fails to submit the thesis before the maximum stipulated period.

10. COMPLETION

10.1 Submission of Synopsis

- The candidate has to give an open pre-synopsis presentation at the institution. It should be notified well in advance to enable participation of other researchers. The presence of DAC members in this meeting is mandatory.
- The DAC may approve the synopsis by analyzing the contribution of the research in the form of visible outputs like Publications, Patents, etc. or suggest modifications.
- The candidate has to incorporate all the suggestions of DAC before submission of the synopsis.
- The following documents are to be sent to The Deputy Registrar-Academics:
 - I. DAC recommendations
 - II. 2 hard copies of synopsis
 - III. Copies of 2 publications having MAHE affiliation
 - IV. Copies of conference attendance certificates
 - V. Plagiarism check/Similarity index report with the signatures of the candidate and supervisor.
- The candidate has to submit the following to: The Registrar (Evaluation) Manipal University, 2nd Floor, Manipal.edu building, Madhav Nagar, Manipal -576 104.
- Upon approval of the synopsis the thesis can be submitted

10.2 Thesis submission and Evaluation

- Each candidate for the award of degree of Doctor of Philosophy shall submit two(02) copies of his/her thesis and one soft copy in PDF format (one or more files of less than 10 MB size each), not earlier than the prescribed minimum period and not later than the prescribed maximum period.
- The supervisor in consultation with the Doctoral Advisory Committee shall submit a panel of examiners with their affiliation and website OR brief resume in the relevant field, at least ONE month before the expected date of submission of the thesis. The panel shall include 3-5 examiners from India, preferably from outside the state of Karnataka. However, accomplished examiners from reputed institutions within the state may also be included. International examiners, if included, should be in addition to the Indian examiners.
- The examiners must be the acknowledged leaders in the field of study undertaken by the candidate.

- A board of two examiners shall be appointed by the Registrar- Evaluation for assessment of the thesis. The University reserves the right to select suitable examiners who may not figure in the submitted list.
- The university shall ascertain from the external examiners their willingness to offer themselves as examiners for a particular thesis. A copy of the synopsis of the thesis shall be sent to the external examiners. On acceptance of the willingness, the thesis will be sent to them
- The examiners shall submit a detailed critique on the thesis. Their recommendations for acceptance of the thesis must accompany a precise certificate that the candidate's work has advanced the existing knowledge on the subject and is a standard research work suitable for publication. In case, any of the examiners is of the opinion that the thesis has failed to achieve the desired standard, and is, therefore rejected, precise reasons for such rejection must be stated by the examiner. If the examiner feels that the thesis can be accepted after revision, he/she shall state the points on which revision is needed.
- The examiner may be requested to send some questions to be asked to the candidate at the time of viva voce examination to seek clarifications on the points raised by him/her. These questions and comments shall be made available to the examiners appointed for conducting the viva-voce examination before the commencement of the viva-voce examination.
- If the thesis is rejected by the examiners, it will stand rejected and shall not be referred to any other examiner.
- 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.
- 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 10MB size each).
- After the thesis has been approved by the examiners, a public defense 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.
- The candidate shall be entitled to appear at the defense of thesis and viva voce examination only if the thesis is unanimously approved by the Board of Examiners.
- When the thesis is approved, the candidate has to submit the final thesis (TWO copies in case of MAHE institutions, ONE copy in case of research centres) along with a soft copy in PDF format during the defense viva examination.
- If the report from any one of the external examiners is not received within four months, the thesis will be sent to another examiner from amongst the approved panel.

- The board of examiners for the viva voce examination shall consist of one external and one internal examiner. Ordinarily, the Supervisor/Co-Supervisor(s) of the thesis and any expert appointed by the university will be the internal examiner. One of the external examiners from India who assessed the thesis of the candidate will be the external examiner at the viva voce-examination.
- The topic, date and the time of the defense of thesis shall be announced by the University well in advance so that the faculty members and other interested in the topic of the thesis can be present.
- At the viva voce examination, the candidate's general proficiency in the subjects allied to the field of his study shall also be evaluated.
- Those attending the public defense, who are not members of the board of examiners, can participate by asking relevant questions with the permission of the examiners.
- The board of examiners shall take into consideration the views and criticism, if any, of the faculty members and others participating in the public defense of thesis.
- However, the result of the examination shall be decided solely by the members of the board of examiners.

10.3 Award of Degree

- Candidates who qualify for Ph.D. degree under the seal of the university and signed by the Vice Chancellor will be awarded the degree at the next convocation held for conferring degrees.
- The title of the thesis shall be indicated in the degree certificate. The degree certificate shall not indicate the subject or specialty.

11. ANNEXURE

11.1 Annexure I: Format of Cover Letter from HOD

11.2 Annexure II: Composition and Recommendation of the DAC

11.3 Annexure III: Application to MAHE