

PhD - Planning – Advise - Lab Facility Program

Course coordinator: [Devendra Lingojar](#), Director, ATG LAB

Initiation Codon.....for Knowledge Society

Research Areas: 1. Molecular Microbiology; 2. Plant Molecular Biology
3. Applied Bioinformatics; 4. Plant virology; 5. PCR diagnostics



Note: Major objective of this program is to provide facilities and proper orientation to budding scientists, by providing them student friendly environment as well as well equipped laboratory for completing their doctoral research, with due permission of their PhD guide and University as collaborative project of their place of research with ATG LAB.

Break up your PhD priorities in four sections

Section I: Documentation and paper work (Administrative work for University): (Year 1)

1. Rules and regulation of PhD in different universities
 2. PhD registration form
 3. Preparation of Pre-PhD vivo: Title, aims and objectives, Methodology, Possible contribution in existing knowledge improvement and significance of PhD studies, Duration, References, Preparation of PPTs for Pre-PhD presentation,
 4. Submission of PhD admission form along with report of Pre-PhD vivo report and temporary admission to place of research for Head of Place of research to Admission department, Registrar, University
 5. Letter of Registrar (admission) University to Head, place of research for confirmation of admission to university (**This is most important document**)
 6. Confirmation Letter from Head of Place of Research to Student and University (**This is most important document**)
- Other formalities: 7. Eligibility form for change in university; 8. Gap certificates if any

Note: This entire exercise will require (6 -12 or more months); Till then student can work on section II

Section II: Documentation and paper work (Technical work with guide) Find PhD problem? (Year 1)

1. Review of literature for parallel studies in Indian and worldwide
2. Write all the important aspects require to finish your lab work: Instrumentation, Funding required to complete protocols if not available in your own laboratory; Guidance: if your guide is competent in particular areas you have selected or areas allotted to your for student: find such co-guide for your studies
3. With 2-3 meetings (guide, co-guide and your) finalize exact objective and write all possible techniques before start of the PhD project.
4. Once again revise your actual project for any loopholes (e.g..1. Human parvovirus B19 is not reported in India previously and your guide is talking about pathogenesis; understand if it is possible or not e.g. 2 Cannabis is banned plant and your have selected for PhD work on it, you can waste first 3 years for approval for using it for research) Take a simple problem for PhD which can complete in 3 to 4 years (if there are no major difficulty in PhD progress). (A very good solution is study for one year on topic, establish with your own results and then finalize what you want to do exactly in PhD along with working on section I).

Section III: Your actual table work (two and half years) (Year 2 and 3)

1. Standardization and optimization of each and every protocol (1 year) (e.g. DNA or RNA extraction to DNA / protein sequencing till structure prediction of protein and its troubleshooting, learn to solve daily routine protocols, and finally document standardized protocols with all documentation in Gel doc etc)
2. Systematically repeat these protocols with your actual sample (1 year)
3. Compare your studies with earlier hypothesis and write down line by line and word to word for final outcome: There are three types of studies in research: Type 1 (approx. 90% studies are Parallel with existing hypothesis) (it will support earlier studies, so it is important); Type 2: It (Appro. 9% studies are exactly opposite to existing hypothesis, it is always challenging to prove that earlier existing findings / hypothesis are wrong, so it is more important as it provides an opportunity for cross examination of established hypothesis / findings e.g. earth is round as said by Galileo and he paid price for that). Very interesting third type of research is type 3: (1% studies go parallel with existing hypothesis to some extent and then take a turn of 90 degree: This may provide an opportunity to re-think the existing hypothesis and can change future line of research. Most of the innovations came through this route.

Section IV: Presentation in conference/ publication /patent/ synopsis/thesis preparation (Year 4)

Prepare abstracts, Synopsis, and publications, learn how write International publications, communication skills and how to send manuscript for publications, preparation of abstract for conferences at National and International level, follow deadlines for conference, Prepare for poster and / or oral presentations (*first 6 months*)

Prepare Synopsis after receiving remarks from discussion through various related co-workers, parallel studies in different institutes by different workers etc.

Finalize dates from Synopsis presentation: Prepare hard copies and read it carefully, a summary of this should be given to referee, guide and those who are willing to attend your seminar of Synopsis presentation. After some suggestions start project writing i.e. thesis preparation / or modify the written thesis according to suggestions or include or delete any finding as per guide's / co-guides / examiner's suggestions. Prepare list of NCBI DNA sequences, protein sequences containing your name in the list of authors, Oral / poster presentation in state/National/International level conference; Published / accepted papers in peer reviewed journals/ Manuscript prepared and ready for submission etc. and most important published patent if any in the PhD registration duration (*next 6 months*).

For more details, visit our lab, discuss with us, discover yourself what you wants to do; Find your interest, and then confirm yourself for research.....

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