

Report on the Mini-workshop on Introduction to Research (held on 02nd June 2023 at the Seminar Hall - DOM)

Centre for Mathematical Modelling
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1. Introduction

On the 2nd of June 2023, the Centre for Mathematical Modelling conducted a mini-workshop on 'Introduction to Research' for the students who are intending to research on the application of mathematics at the Department. Final-year undergraduates from Applied Mathematics (AM), Computational Mathematics (CM), Mathematical Finance (MF), and also Finance Insurance (FI) degree programs participated in the event.

2. Workshop Proceedings

2.1 Presentation on Research in Applications of Mathematics

The workshop started at 12.30 pm and Dr. Anuradha Mahasinghe initiated the session by delivering a presentation on introduction to research in applications of mathematics. Making a distinction between research in mathematics and applications of mathematics, he explained that the domain of the latter is mostly in the field of scientific research, in which the inductive-deductive approach is the standard, in contrast to the mostly deductive approach in earlier. That being said, the inadequacy of inductivist approaches in mathematics were shown with examples, and it was strongly recommended to have a significant deductive component in the research work the students are intending to do. For instance, when models are fitted to datasets, the importance of a deductive approach - a thorough investigation of the assumptions for the model to be applicable was explained. The presentation continued by explaining how to start a research work by referring to literature from good repositories, and also with tips for good oral presentations. The importance of avoiding predatory publications in a literature survey was also emphasised.



2.2 Presentation by Former Research Students

After the first presentation, the workshop continued with another presentation by two former students, Ms. Dulmi Fernando and Ms. Chami Kariyapperuma who shared their research experiences in the last year with the participants. They discussed their experience, highlighting the challenges they encountered and showing their research outcomes.



2.3 Group Activity

Following the two presentations, the participants engaged in a group activity designed to apply what they learned during the workshop. They were divided into seven groups, and each group was assigned a question to explore during the workshop. The objective of the group work was to facilitate meaningful interactions and knowledge sharing among the participants.

The following were the activities given to groups:

Group 1: Given a topic, finding 5 references and rating them by 1 to 5 stars, according to relevance to the topic and credibility of the source, so that each rating 1 to 5 appears somewhere in the list.

Group 2: Commenting on a summary of a research report

Group 3: Commenting on a slide from a ppt-aided presentation

Group 4: Given a list of references on a particular topic, selecting the least-significant one

Group 5: Given a list of topics, selecting the ones that are suitable as undergraduate research projects

Group 6 (FI students): Finding what is patentable and what is not in industry-based research

Group 7 (FI students): Making a list of good venues to look for industrial white papers





Once the activity was over, each group presented their findings, allowing for further interactions and learning from different aspects. Following each group presentation, Dr. Anuradha Mahasinghe, Dr. Hasitha Erandi, and the participants engaged in discussions, offering comments and feedback.





2.4 Introduction to the New Research Plan

After the group presentations, Dr. Anuradha Mahasinghe introduced the new research plan for 2023 to the participants, which outlined the framework to be followed throughout the research process. This research plan aimed to provide guidance for the participants to conduct their research effectively. Key aspects in the new plan, such as the allocation of more weight to the second semester, protocols to be followed in data collection, were explained, and the participants were strongly encouraged to get their proposals approved in the first round itself. Following the introduction of the new research plan, participants had the opportunity to ask questions and seek further clarification.

3. Closing Remarks

In closing, the 'Introduction to Research' workshop was conducted with the participation of forty six students. With the interactive session and the presentations, the mini-workshop is believed to be helpful to the participants for the research projects they are expected to start soon. It is expected to get the feedback of the students by creating a Google form within the next few days.