

## HSNC UNIVERSITY, MUMBAI Kishinchand Chellaram College Department of Life Sciences



**Under the Aegis of DBT Star Status** 

Presents

**Q-rius Lecture Series 2021-2022** 

Lecture-01

## **'INDUCTION TO RESEARCH THROUGH EXPERIMENTATION'**

## **'Roadmap to Structured Research Project'**

The Department of Life Sciences, K.C. College, under the aegis of DBT Star Status, started off the Q-rius Lecture Series, 'Induction to Research through Experimentation'. The first session of the series was held on 5<sup>th</sup> August, 2021 by organizing an online webinar on 'Roadmap to Structured Research Project' on the zoom platform. The speakers for the session were the third year Life Sciences undergraduate students, Ms. Kelly Nigrel, Mr. Nikhil Thandhani and Ms. Saraan Qureshi under the guidance of their mentors, Dr. Suvarna Sharma, Dr. Mayuresh Joshi and Mr. Gaurav Bingi. The webinar aimed to stimulate the minds of students in the field of experiments and guide them to achieve reliable results through optimized methods of experimentation.

The session was inaugurated by Dr. Tejashree Shanbag, Vice Principal, K.C. College, who emphasized the importance of this interactive session in polishing a student's skill for conducting and executing any experiment followed by Dr. Shalini Rai, who further spoke about the benefits of such webinars in helping the students to inculcate a habit of looking at an experiment with logic and reasoning

along with refining their survey based research experiments through sessions by different mentors who are experts in their field.

Dr. Suvarna Sharma began the session by briefing the participants about the important phases of research, that is, Pre-Lab, Experimentation and Post-Lab phase. Ma'am explained in detail the components of the Pre-Lab phase such as objectives rationale and relevance. She further stated the importance of proposing the hypothesis as it translates the problem statement into precise and unambiguous prediction of expected outcomes and lastly explained the significance of following standard operating procedure. The session was then taken over by Mr. Nikhil Thandhani, who introduced students to 'Vriddhi', which would be Experimental Kits created by the students of TYBSC Life Sciences to assess the effects of different treatments on seed germination. The objective of their study is to determine the best suited conditions for germination and bring lab home experimental kits. Thus, piquing the interest of the participants.

Mr. Gaurav Bingi then led the session discussing about the experimental phase and described it as one of the most important aspect for designing an experiment and research. Sir also threw light on designing the experiment in an optimized manner to obtain successful results from the experiment. He also mentioned how determining the feasibility of the protocol of the pilot experiment is an important step in designing an experiment. Then, the session was carried on by Ms. Saraan Qureshi who recounted the pilot study for 'Vriddhi' and gave the students a detailed account of the requirements needed for the experiment, seeds (wheat & black chickpeas) along with the preparation of solutions and the procedure they followed for obtaining the reliable results from the experiment.

Furthermore, Dr. Mayuresh Joshi spoke about the Post-Lab work and strategizing the choice of experiment. Sir described the vital features of post-lab phase, such as, result analysis, deriving conclusion and communication. Sir also explained various biostatistical analysis methods along with methods of publishing the research experiment with the aid of proper communication by submissions to databanks or conference proceedings. The last speaker for the day, Kelly Nigrel gave a detailed account on the analysis of results obtained from pilot study including the quantitave and qualitative analysis along with observations acquired. She also provided the participants with a comparative account of germination in monocot and dicots with the help of graphs and charts which made the presentation more attractive and easy to understand.

The session came to end with the concluding remarks given by Dr. Sagarika Damle who thanked the speakers for enlightening the students and Dr. Shalini Rai who expressed her gratitude and acknowledged the efforts of the speakers and the students working on this project as well as the webinar along with the participants for their attention and willingness to learn.

The knowledge from the seniors and teachers of the department made the webinar extremely informative and illuminating. The session served its purpose of providing the students with a roadmap to structured research process and furnished students with the base for beginning and executing any experiment.

