

Data Science for Biology Workshop Series by COMBIGS

The COMBIGS student association of the Department of Bioinformatics conducted two workshops aiming at introducing some basic aspects of data science applied in biology. The first one, “Introduction to R programming and Statistical Applications using R” was conducted on the 24th of August 2019. The main motive of the workshop was to introduce the basic concepts in data interpretation and analysis of the statistical data provided using R, a machine learning language. 58 Participants including students from M.Sc. Data Science, Bioinformatics, ECE and Biotechnology participated with great zest. Dr. Vigneshwar and Dr. Arunachalam gave insights on how to handle, interpret and analyze the data provided using R, thus helping students grasp basic concepts that would prove useful in various work domains.



Figure 1. Participants and facilitators of the workshop on introduction to R

The second workshop of this series was on “Introduction to Next Generation Sequencing Data Analysis” and was conducted on 14.9.2019. The workshop’s primary focus was to expound upon the inception and advancements of Next Generation Sequencing and buttress the introductory lecture talks with an entire afternoon of hands-on experience. The event witnessed participants from a variety of disciplines and backgrounds, including M.Sc student members from Data Science and Biotechnology, B.Tech. students from Biotechnology, Bioinformatics, Medical Nanotechnology and Computer Science totaling to 23. External participants were from EGS Pillay arts and Science college, Bharath College of Science and Management and Bharathidasan University.



Figure 2. Participants and facilitators of the NGS workshop

Dr. K. Saraboji, Dr. Suma Mohan and Dr. A. Sathya introduced the diverse audience to NGS by delineating the essence of bioinformatics and explained the importance of NGS in a nutshell. They expounded their thoughts about the various big data file formats involved in NGS data analysis and their applications in real problem solving. They concluded by highlighting the usage of NGS methods throughout the biotechnology industry, from small startups to large conglomerates. The hands-on session at the Bioinformatics lab invited excited learners to have a quick peek at NGS data analysis. Sample files from cutting edge research were provided and participants were taught how to use NGS tools and draw inferences from their analysis.