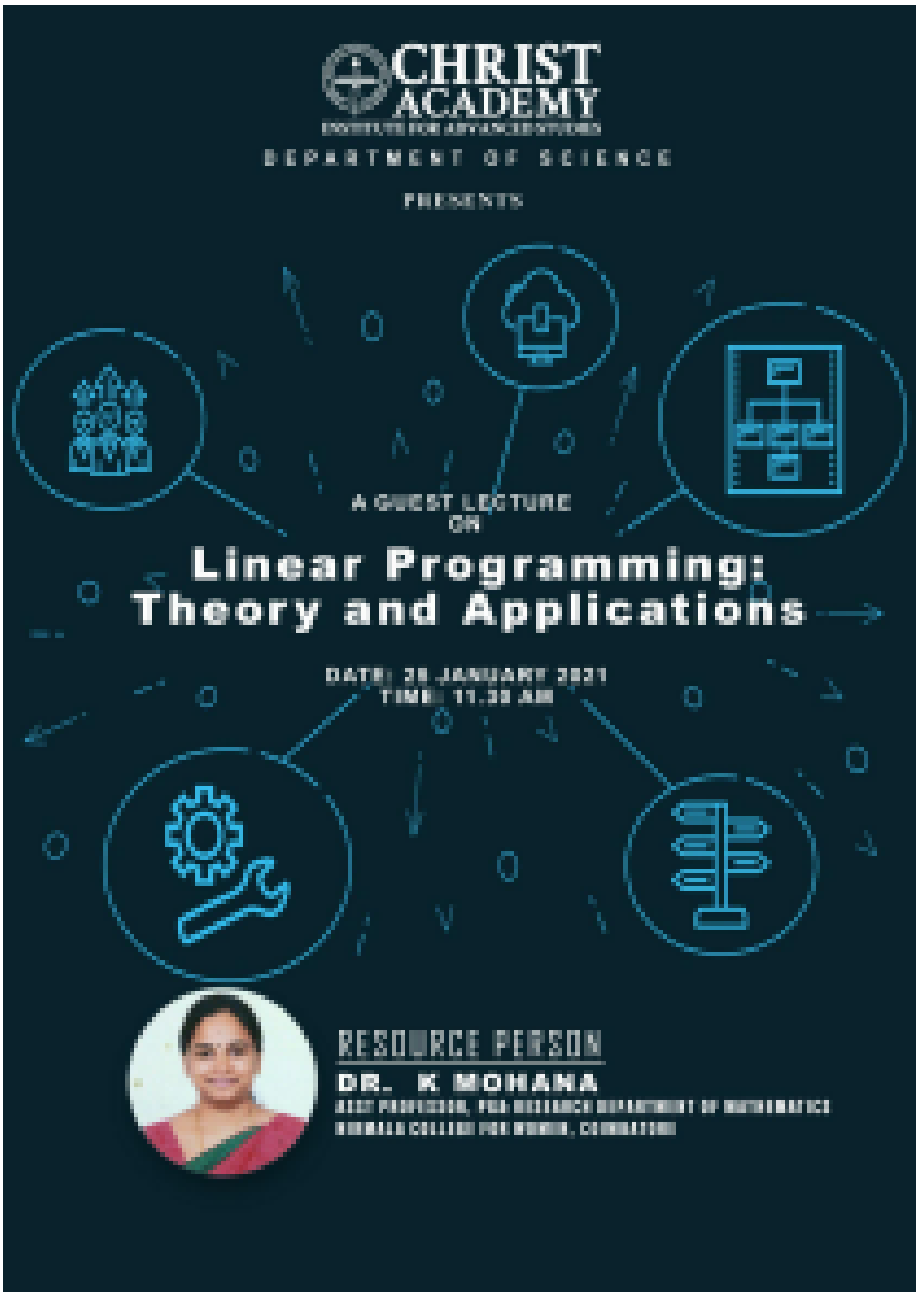
Guest Lecture on "Linear Programming: Theory and Applications"

Date: 25th January 2021, 11:30 am – 12:15 pm
Venue: Online, Google Meet



Objective: To introduce a new concept to B Sc Mathematics students. The topic chosen is Linear Programming and its applications.

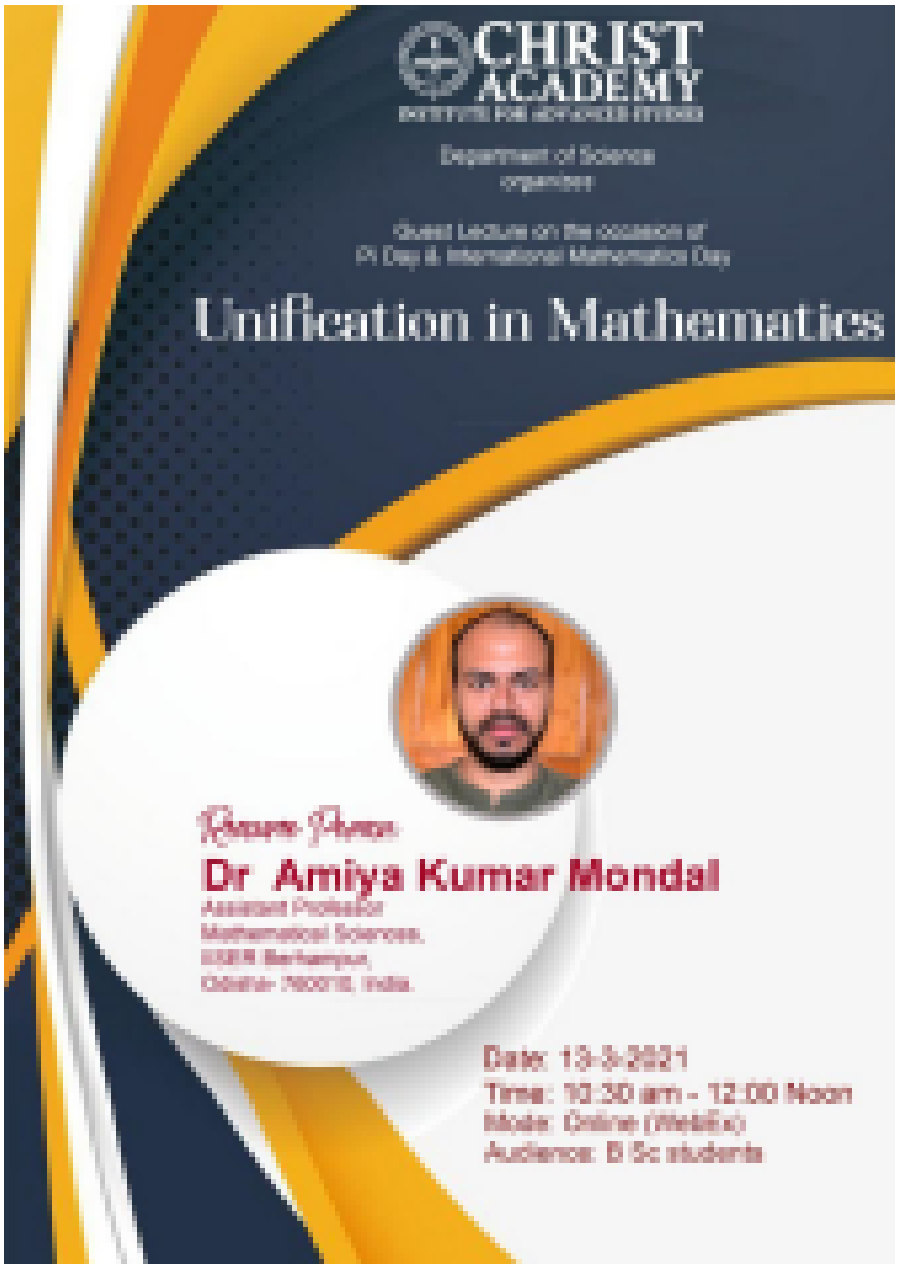
Abstract: Department of Science, CAIAS organized a Mathematics Guest Lecture on "Linear Programming: Theory and its applications" on 25th January 2021 for B Sc students of all streams at 11:30 am to 12:15 pm. Resource person for the day was Dr K Mohaha, Assistant Professor, Nirmala College for Women, Coimbatore. The session was conducted online through Google Meet platform for the first and second year B Sc students. Final year B Sc students attended the session in the first floor seminar hall. The session commenced with a welcome speech by Annie Shaju of 3rd semester B Sc. Dr Rose Joseph introduced the resource person to the audience.

Dr K Mohana introduced the concept and theory of Linear Programming. She explained how to formulate a linear programming problem. Dr Mohana explained various methods of solving linear programming problems viz., Graphical method, Simplex method etc. Dr Mohana also explained how LPP is used in day-to-day life. In her talk, Dr Mohana highlighted the importance of LPP in various fields like transportation, work allotment etc. She discussed the implementation using R programming and Excel. The session was concluded with a vote of thanks by Ms Annie Shaju of 3rd semester B Sc.

The event was beneficial to the participants as it inspired them to understand and learn more about the theory and applications of Linear programming problems.

Guest Lecture on Unification in Mathematics

Date: 13th March 2021,10:30 am - 12:00 noon
Venue: Online, WebEx



Objective: To give an idea to the B Sc students that even though Mathematics has different branches, each of them are interconnected.

Abstract:A webinar on " Unification of Mathematics" was organized by Department of Science on the occasion of Pi Day & International Mathematics Day on 13th March 2021 from 10:30 am – 11:30 am through Webex. 66 students from B Sc and faculty members from Department of Science attended the webinar. Dr Amiya Kumar Mondal, Assistant Professor, Mathematical Sciences, Indian Institute of Science Education and Research (IISER), Berhampur was the resource person. Ms Annie Shaju of III B Sc EMS was the master of ceremony. The event stared with a prayer from Ms Jahnavi from I B Sc PCsM followed by welcome address and introduction of the resource person by Dr Sangeetha George K, Head, Department of Science.

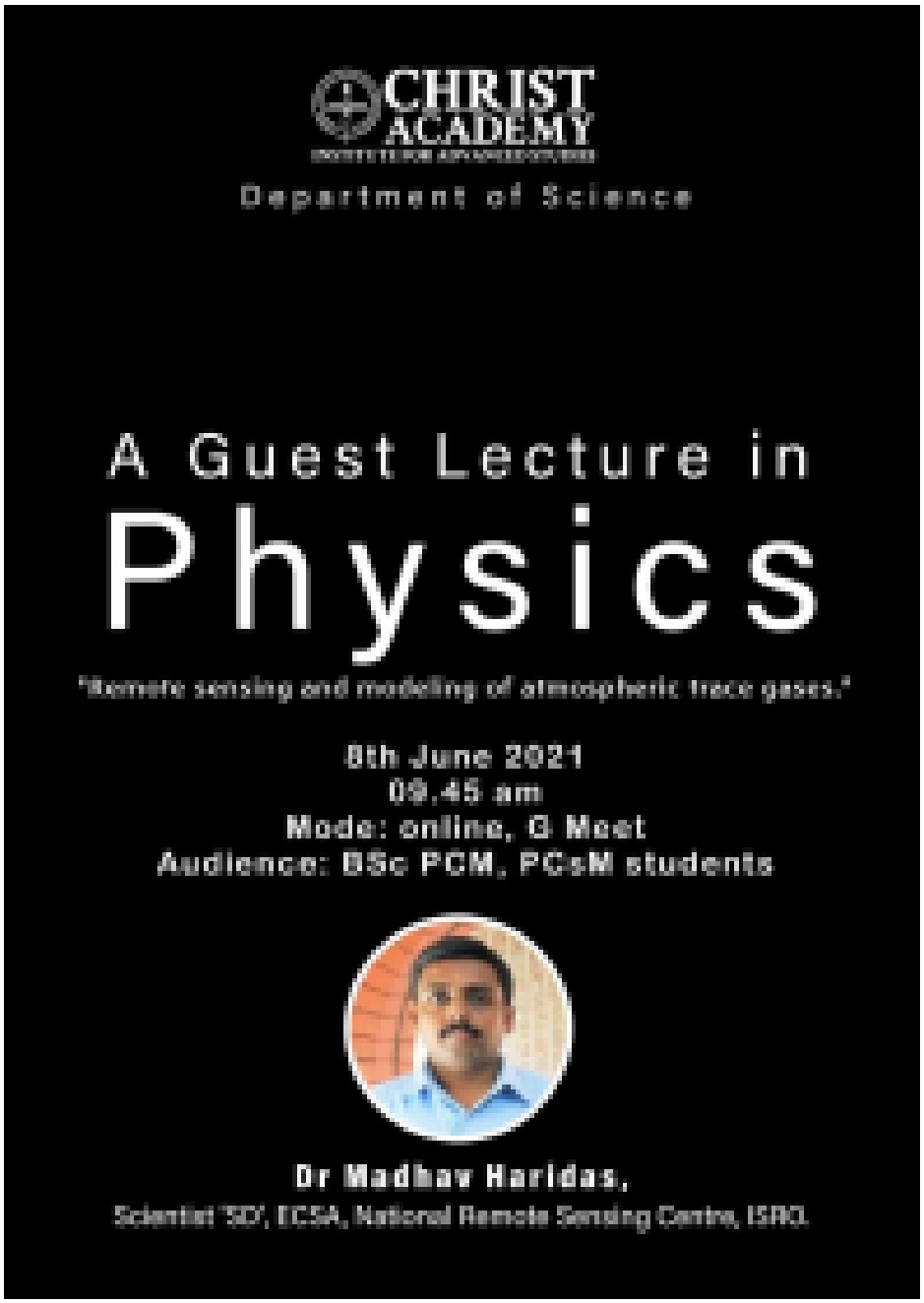
Mathematics has various branches like Algebra, Calculus, Analysis etc, The connection between these branches are not very evident in undergraduate level. Dr Amiya Kumar Mondal gave a brief idea on Unification of Mathematics considering the concepts of Real Analysis and Symmetry with number theory. Dr Amiya mentioned about Robert Langland's letter to Andre Wile regarding symmetry. He said that Langland's program is known as Grand Unified Theory of Mathematics. Dr Amiya connected Real Analysis with Number Theory by considering properties of Dirichlet Series and showed that it satisfies Reimann-Zeta function. He considered algebraic symmetry by observing roots of a polynomial. Dr Amiya said that studying Algebraic and Geometric Symmetry mathematically is equivalent to studying Group Theory particularly permutation groups.

The session was concluded with vote of thanks by Ms Vaishnavi of I B Sc PCM. She expressed special gratitude to Dr Amiya Kumar Mondal the resource person for the event, for his informative talk. She also expressed gratitude to CAIAS management, Head of department of science and faculty for their constant encouragement and support in conducting the webinar.

Guest Lecture on "Remote sensing and modeling of atmospheric trace gases".

Date: 8th June 2021, 9:45 AM – 11 AM

Venue: Online, Google Meet



Objective: To make the students aware of current research occurring in the field of atmospheric studies.

Abstract: As a part of department programs for the even semester, a webinar was organized by Department of Science, Christ Academy Institute for Advanced Studies, on 8th June 2021 from 9:45 AM to 11 AM. The participants include faculty, BSc (PCM, PCsM) students. The host of the day was Ms Pooja R from third year BSc PCM. The event started with the prayer song by Ms Varmitha from second year BSc PCM, followed by welcome address by Ms Ashiya from second year BSc PCM. Ms Ashiya extended her warm welcome to resource person, faculty and all the participants of the webinar. The speaker was introduced by Mr Samuel G from first year BSc PCM.

Dr. Madhav Haridas talked about the various gases which contribute to atmospheric pollution and the methods to detect the same. He gave the detailed description of how NO_2, SO_2 can be detected which is mostly emitted by thermal power plants. These gases remain in the atmosphere for almost 100 years. He mentioned about various anthropogenic activities which leads to these kinds of pollutants. He clearly explained about remote sensing of trace gases and the limitations for the same. He discussed the global distribution of tropospheric column of NO_2. He concluded the session by giving a brief idea about numerical modelling. The session was remarkably interesting. He explained in a quite simple way that the students were able to understand well.

The session was concluded by a vote of thanks by Ms Sanjana from second year BSc PCsM. She expressed special gratitude to the chief guest for his informative and useful presentation. She also expressed gratitude to CAIAS management, Head of department of science, event co-ordinator and faculty for their constant encouragement and support in conducting the webinar. She thanked all the participants in making the webinar a grand success.