

A social Outreach Programme on

Comparative Genomics and its applications

Under The Guidance of
Dr. Rajib Bandopadhyay
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Submitted By

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KALNA COLLEGE

P.O. KALNA, DT. BURDWAN, WEST BENGAL
(AFFILIATED TO THE UNIVERSITY OF BURDWAN)

Graded by NAAC: B ++

Date: 27.06.2019

To whom it may concern

This is to certify that Ms. Debarati Chatterjee, M.Sc Botany, 2019 (Sem IV) at Burdwan University has successfully delivered her talk at Kalna College, in concern with the social outreach programme as a part of her project. She has also interacted with the students to answer their queries and disseminate her research message.

A handwritten signature in blue ink, which appears to read "Prasun Biswas". The signature is fluid and cursive, with the first name "Prasun" and the last name "Biswas" connected.

(Dr. Prasun Biswas)
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Acknowledgement

I want to acknowledge first my respected guide **Dr. Rajib Bandopadhyay**, Professor, Department of Botany, The University of Burdwan because of his continuous support and encouragement for my social outreach programme and his valuable speeches for making my dreams complete and to find the way to construct our career.

I acknowledge to **Dr. Sikha Dutta, Professor and Head, Department of Botany**, The University of Burdwan; for giving me the chance to do the social outreach programme.

I acknowledge my respected teachers **Prof. Ambarish Mukherjee, Prof. Jai Prakash Keshri, Prof. Soumen Bhattacherjee, Prof. Tushar Kanti Maity, Dr. Abhijit Bandyopadhyay, Dr, Sujit Roy, Dr. Ashoke Ghosh, Dr. Saikat Naskar and Ms. Tithi Soren**. Their teaching, thinking and kind behavior inspired me.

I am grateful to **Dr. Prasun Biswas**, the Head of the department of Botany and **Prof. Jaydev Acharya**, faculty member of **Kalna College**, Kalna, Burdwan; for permitting me to perform my social outreach programme in the college.

I express immense gratitude to Mr. Raju Biswas, Ms. Urmila Halder and Ms. Bhramar Dutta for their loving guidance and affections.

I am also grateful to Ashutosh da, Krishnendu da, Karuni di, Moitri di and Shrabana di, Dibyendu da; for their loving guidance as my elder brothers and sisters during this project.

I am thankful to my friends like Sanjukta, Amit, Ranju, Mamata, Riya, Nusrin and all my other classmates.

And last but not the least nothing is possible without my family.

Debarati chatterjee
05/08/2019

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2.1 Criteria for choosing the outreach:

I have chosen my college (Kalna College), situated at Kalna, Burdwan, for the place of my social outreach programme. The criteria for choosing my college as a best place for this awareness programmed is-

- As an ex-student of Kalna College, I want to share my experiences to my juniors, now studding in under graduate level.
- To reach the idea to students that how comparative genomics, bioinformatics could be used for various study such as evolutionary analysis, drug discovery.
- The students will further aware their family and neighbouring peoples about microbes and their impact on our daily life.

2.2 Activities in the classroom:

The social outreach programme was done in “Kalna College”, Burdwan on 27th June 2019. At first, I interact with the Head of The Department of the College, Dr. Prasun Biswas sir. He allowed me to arrange my social outreach programme. He gave me the chance to teach total 30 Botany honours students from 1st and 2nd year. I had discussed the topic “comparative genomics and their applications” with them. First, I discussed what is bioinformatics, what is genomics, what is the comparative genomics and what is the applications of comparative genomics in present scenario.



Figure 4: My performance in classroom to aware the students about the comparative genomics and its applications.



Figure 5: Question -answering session with some curious students.

3.1 The outcome and the conclusion of this programme:

All students and my teachers listened to my presentation attentively. Students asked me a few questions. Some of which are listed in below.

Table 1: summery of the question answering session with the students

Questions asked by the students	Answers given by me
Why do we compare genomics?	We compare genomics to find out the similarities and dissimilarities between organisms to obtain their phylogenetic analysis like antibiotic resistant gene and others.
How do we compare them?	There are several tools and websites in computer to compare genomes, like NCBI, BLAST, MEGA, Gene Bank etc.
What are the applications of comparative genomics?	It is used for drug discoveries, evolutionary analysis due to easy accessibility.