

Webinar Report

on

Interdisciplinary Topics in Chemistry for Budding Chemists

18 June, 2020

Organized by:

Department of Chemistry

with Support from IQAC, Dhemaji College

Submitted by

Dr Manash Protim Borpuzari

Miss Neha Rani Kumar

Joint Convenors

Department of Chemistry

Dhemaji College

1. Preamble:

A One day webinar on "Interdisciplinary Topics in Chemistry for Budding Chemists" has been conducted on 18th June, 2020, at Dhemaji College, Dhemaji as an initiative to increase the knowledge in chemistry among the undergraduate students of Chemistry. This webinar is organized by Department of Chemistry, Dhemaji College with support from Internal Quality Assurance Cell (IQAC), Dhemaji College.

2. Participant's Profile:

A total of 463 students were registered for the webinar. The students were from all over the India

3. Resource Person's Profile:

(a) Dr Diganta Sarma
Associate Professor & HoD
Department of Chemistry
Dibrugarh University
Dibrugarh, Assam

(b) Dr Rahul Kar
Assistant Professor
Department of Chemistry
Dibrugarh University
Dibrugarh, Assam

(c) Dr Anupaul Baruah
Assistant Professor
Department of Chemistry
Dibrugarh University
Dibrugarh, Assam

(d) Dr Ankur Kanti Guha
Assistant Professor
Department of Chemistry
Cotton University
Guwahati, Assam

4. Description about the Program:

The webinar was organized in Google Meet platform and the webinar was broadcasted to Youtube Live. The participants attended the webinar through both Google Meet and Youtube Live.

Mr Dwipen Kakoti, Head, Department of Chemistry, Dhemaji College welcomed all the participants and resource person to the webinar.

In the inaugural talk, Dr Dipak Kr Neog, Principal, Dhemaji College briefly introduced the resource person. In his inaugural talk, he emphasized the role of digital platform in learning process during the COVID-19 pandemics.

Dr Diganta Sarmah, Head, Department of Chemistry, Dibrugarh University, delivered a lecture on "Green Chemistry: Recent Advances in Environmentally Benign Synthesis". In his speech, he systematically explained the definition and principles of Green Chemistry. He demonstrated with example the method to calculate the atom economy of any chemical reaction and emphasized the use of Green Solvents in chemical reactions to minimize the environmental pollution.

Dr Anupaul Baruah, Assistant Professor, Department of Chemistry, Dibrugarh University started his lecture by asking a primitive question "Why Life?" He then progressively moved the definition of life from religious point of view to the thermodynamic point of view. In his speech, he explained the definition of entropy from both the macroscopic and microscopic point of view. He mathematically elucidated the second law of thermodynamics is actually the law of increase in randomness of the universe

In his speech on "Quantum Chemistry", Dr Rahul Kar, Assistant Professor, Department of Chemistry, Dibrugarh University gave a brief introduction on the importance of quantum chemistry. He explained the postulate of quantum chemistry in an easy manner. He further extended the application of the postulate of quantum chemistry to 1-D box and 3-D box.

Unfortunately, Dr Ankur Kanti Guha, Assistant Professor, Department of Chemistry, Cotton university was unable to deliver his speech due to some technical problem.

Miss Neha Rani Kumar, Assistant Professor, Department of Chemistry, Dhemaji College proposed vote of thanks. She thanked the resource persons, Principal, Dhemaji College, IQAC, Dhemaji College and all the participant for their co-operations.

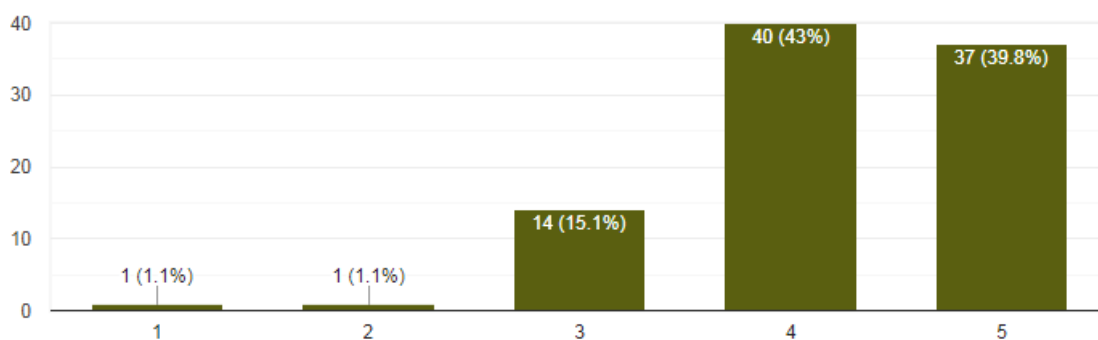
5. Feedback:

Participants expressed their gratitude to the organizing committee for arranging a webinar on basic chemistry.

The graphical representations of the feedback are as follows

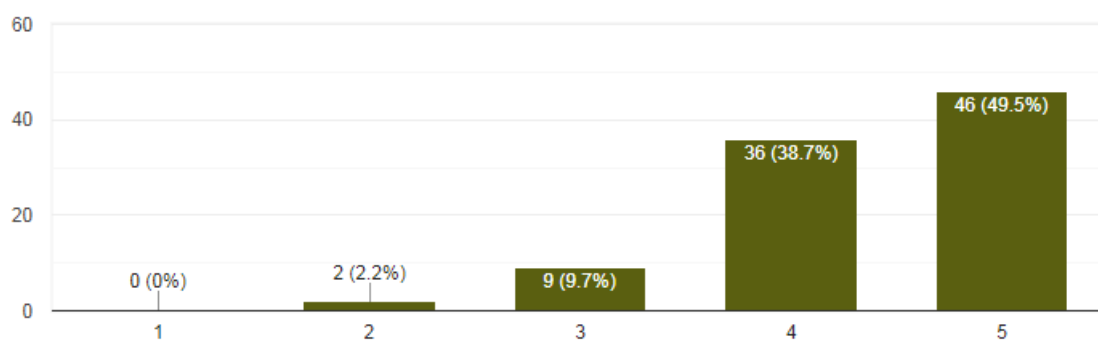
How satisfied were you with the event?

93 responses



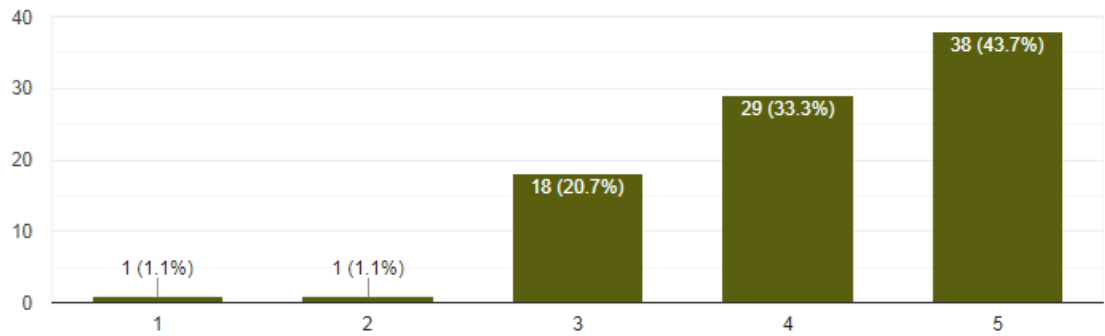
How relevant and helpful do you think it was for your education?

93 responses

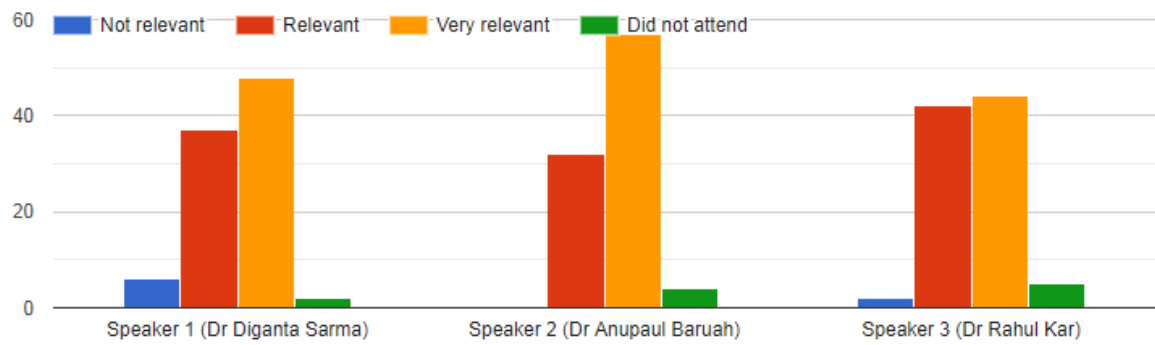


How satisfied were you with the Organizer?

87 responses

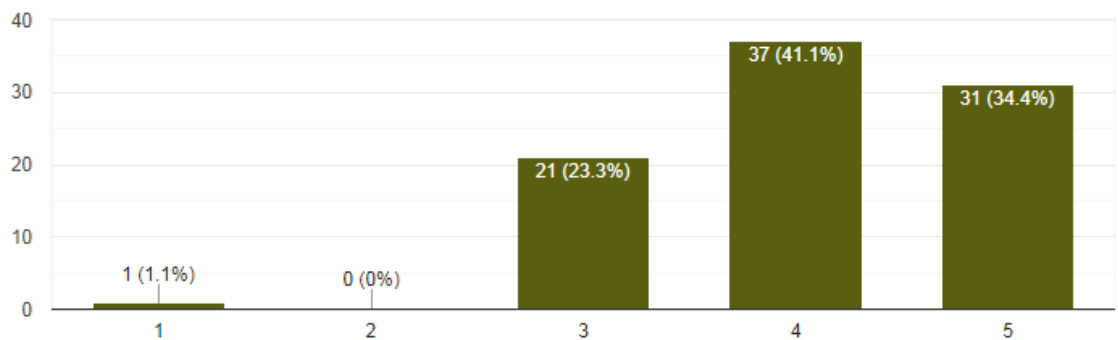


Which sessions did you find most relevant?



How satisfied were you with the session content?

90 responses



6. Future Perspectives:

The Department of Chemistry, Dhemaji College looking forward to organize future webinar on basic chemistry in order to increase the knowledge in chemistry among the UG and PG students.

Some Photos of the webinar

The screenshot shows a Zoom meeting interface. The main window displays a slide titled "Entropy" with the following content:

Entropy

$$\frac{Q_2}{Q_1} = -\frac{T_2}{T_1} \Rightarrow \frac{Q_2}{T_2} = -\frac{Q_1}{T_1} \Rightarrow \frac{Q_1}{T_1} + \frac{Q_2}{T_2} = 0 \Rightarrow \oint \frac{dQ_{rev}}{T} = 0$$
$$dS = \frac{dQ_{rev}}{T} \quad \therefore dS \text{ is a measure of disorder}$$

- Even for an irreversible process entropy change has to be calculated from the heat of a corresponding reversible process.
- Create a composite engine of one Carnot engine and one any engine (reversible/irreversible) using a complicated cycle (many reservoir)
- For the Carnot engine $\oint \frac{dQ}{T} = 0$
- Assume for the other engine $\oint \frac{dQ'}{T} > 0$

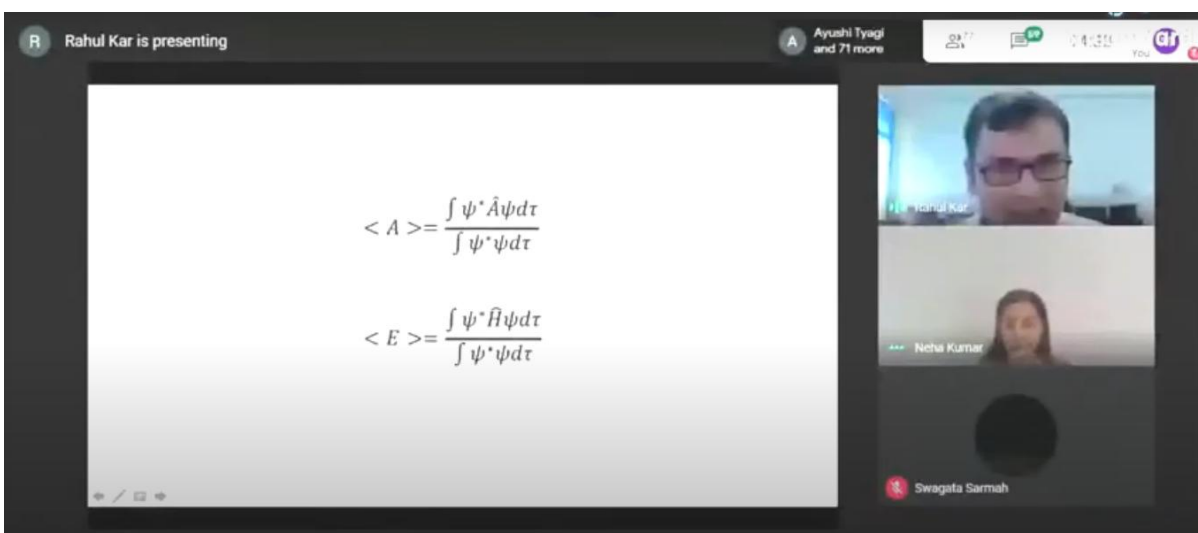
the composite engine $\oint \frac{dQ + dQ'}{T} > 0$

Participants visible in the meeting include anupaul baruah, Samir Kashyap, and Neha Kumar. A notification at the bottom left states "Hemonta Gogoi has left the meeting".

The screenshot shows a Zoom meeting interface. The main window displays a slide titled "Green Chemistry" with a list of principles:

- Design chemical syntheses to prevent waste
- Design safer chemicals and products
- Design less hazardous chemical syntheses
- Use renewable feedstock
- Use catalyst, not stoichiometric reagents
- Avoid chemical derivatives
- Maximize atom economy
- Use safer solvents and reaction conditions
- Increase energy efficiency
- Design chemicals and products to degrade after use
- Analyze in real time to prevent pollution
- Minimize the potential for accidents

Participants visible in the meeting include diganta sarma, Neha Kumar, and Samir Kashyap. The presenter is identified as "diganta sarma is presenting".



Borpuzari

Dr Manash Protim Borpuzari
 Convenors
 Department of Chemistry
 Dhemaji College
 Dhemaji

Neha Rani Kumar.

Miss Neha Rani Kumar
 Convenors
 Department of Chemistry
 Dhemaji College
 Dhemaji