

**DEPARTMENT OF CHEMISTRY**  
**AMBEDKAR COLLEGE, FATIKROY, UNAKOTI, TRIPURA**  
**A BRIEF REPORT ON NATIONAL SEMINAR HELD ON 25<sup>TH</sup> JUNE, 2021**

**TITLE:- "FACETS OF SYNTHETIC AND MEDICINAL CHEMISTRY AND THEIR ACTIVE APPLICATIONS IN THE SOCIETY"**

**Date : 25/06/2021**

**Total Registered Participants:- 235 Nos.**

**Brief Report:-** On 25<sup>th</sup> June, 2021, The Physical Science Departments in collaboration with the IQAC, Ambedkar College, Fatikroy had organised a National Seminar on "Facets of Synthetic and Medicinal Chemistry and their Active Applications in the Society" at 11 AM. The Topic was selected on demand of present pandemic scenario so that application of Chemical Drugs and component materials of Vaccines discovered so far for treatment against deadly Covid-19.

In keeping the tradition of our culture and heritage, the webinar started at 11.10 AM, with the formation of Virtual Dias followed by the lighting of the virtual of the lamp by **Dr. Subrata Sharma, Hon'ble Principal** Sir followed by a time needed multi-lingual song, 'We Shall Over Come' with a hope to boost the participants to face such pandemic situation.

**NATIONAL WEBINAR ON**  
**"Facets of Synthetic and Medicinal Chemistry and their Active Applications in Society"**

**Chief Patron**  
Shri N. C. Sharma TCS, SSG  
Director, Higher Education  
Govt. of Tripura

**Resource Persons**

<b>Dr. Indrajit Saha</b> Assistant Professor, Department of Chemistry Ramakrishna Mission Residential College Narendrapur, W. B.	<b>Dr. Pradip Debnath</b> Assistant Professor, Department of Chemistry M. B. B. College, Agartala Member Secretary TBIEE (Academic)	<b>Dr. Suman Adhikary,</b> Assistant Professor, Department of Chemistry Govt. Degree College Dharmagar, North Tripura	<b>Dr. Rama Kant</b> Associate Professor Department of Botany Chaudhary Charan Singh University, Meerut (U.P.)
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**Organizing Committee**

**President:** Dr. Subrata Sharma  
Principal In-Charge,  
Ambedkar College,  
Fatikroy, Tripura

**Organizing Secretary:** Sri Sanjib Chaudhury,  
Associate Professor, Department of Chemistry

**Convener:** Dr. Manish Nandi  
Assistant Professor, Department of Mathematics

**Joint Convener:** Dr. Chandan Debnath  
Assistant Professor, Dept. of Physics & Convener, IQAC

**Date :** 25<sup>th</sup> June 2021  
**Time :** 11 a.m. onwards

Google Meet Link to join:  
<https://meet.google.com/frd-vcwa-eeh>

Google form link to registration:  
<https://forms.gle/8UyGoungB5tHEkqy7>  
(Free Registration)

E-certificate will be provided to the registered participants, only those who will attend all lectures and submit the feedback form at the end.



**Sri Sanjib Choudhuri, Organizing Secretary** for this webinar delivered the Welcome Address.

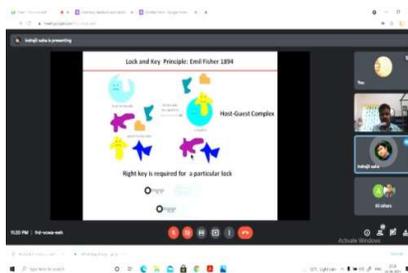
With nice introduction of the eminent resource persons one by one by the host Smt. Jacinta Darlong, Asst. Professor in English, A.C, Fatikroy, the 2<sup>nd</sup> session of discussion on the topic was started.

At the outset, our first Eminent & Distinguished Resource Person, **Dr. Pradip Debnath, Asst. Professor, Department of Chemistry, MBBC & Member Secretary, TBIEE** presented his discussion on "Synthesis of Amidines: Its Application in the Medicinal Chemistry and drug design". On his discussion he mainly focused on:-

Amidines are the important classes of nitrogenous compounds, which have been widely used as antibiotics, diuretics, antiphogistic drugs, anthelmintics, and acaricides. They represent an important pharmacophore in modern drug discovery, and can be found in DNA and RNA binding diamidine diminazene, ASIC inhibitor, and muscarinic agonists for the treatment of Alzheimer's disease. In fact, many of the top-selling pharmaceuticals of the fast few years feature an amidine as a key structural components. In addition, they also serve as ligands for transition metals

due to their unique structure. In synthetic chemistry, amidines have been used as valuable precursors for the preparation of azaheterocycles of biological interest such as- imidazoles, benzimidazoles, quinazolines, triazine, triazoles, oxazole, pyrimidines, pyrimidopyrimidines etc.

Recently, we have developed a new copper-catalyzed protocol for the synthesis of amidines via direct nucleophilic addition of amines to nitrile under molecular oxygen atmosphere. The protocol is economic; and use of green oxygen making the protocol more sustainable and environmental friendly. Therefore, the methodology developed by us could be applied in the preparation of biologically important substrates. More importantly, we have applied the amidine substrate for the preparation of paracetamol in a high yield starting from *p*-hydroxybenzotrile. This method for the preparation of paracetamol has great advantages over the previous methodologies as it avoids the use of aniline. Very recently, we also applied amidine substrates for the synthesis of biologically important pyrimidopyrimidines. It is pertinent to mention that pyrimidopyrimidine is an important component of DNA and widely used in the pharmaceutical industry for the preparation of life saving drugs.

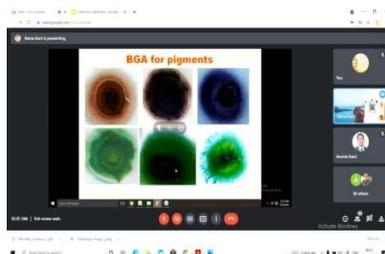


Our second Eminent Resource Person **Dr. Indrajit Saha, Asst. Professor, Dept. of Chemistry, Ramkrishna Mission Residential College, Narendrapur, West Bengal** discussed on, “Chemosensors for Anions”. He mainly focused on:-

Detection and Qualification of various biologically important anions. It has wide application in bio imaging, extraction and transport. In drug design also, Chemosensor plays an important role.

Our third Eminent Resource Person **Dr. Ramakant, Associate Professor, Dept. of Botany, Chaudhary Charan Singh University, Meerut, UP** presented his entrepreneurship based topic on “Algae based Entrepreneurship development” and mainly highlighted on:-

Algae based Entrepreneurship Development using different algal strains like Spirulina Cultivation, bio-fuel production and biofertilizer production. He expressed how Algae culturing can financially benefit anyone.



Our Final Distinguished Resource Person, **Dr. Suman Adhikari, Asst. Professor, Dept. of Chemistry, Govt. Degree College, Dharmanagar and Treasurer, ISC, Dharmanagar Chapter** broadly discussed on “Supramolecular assemblies of Ni(II) complexes Harvested from Functionalized Sulphur and Nitrogen donor ligands”. He mainly highlighted on:-

Supramolecular Chemistry, a term introduced by Jean-Marie Lehn is “ Chemistry beyond the molecule”, i.e the chemistry of molecular assembles using non-covalent bonds in 1967. Pederson observed that crown ether showed molecular recognition-the first artificial molecule found to do so. Cram established host-guest chemistry where the host molecule can accommodate another guest molecule in 1978. Lehn proposed the term “Supramolecular Chemistry” ultimately create revolution n awarded with most prestigious Nobel Prize in 1987 alongwith Pedersen & Lehn.



The webinar ended with nice and excellent sum-up Presidential Address covering and highlighting the topics discussed by our Resource Persons and thanking all the dignitaries and participants.

