

In her case study, Dr. Barman used HIV-1 microarray dataset having untreated HIV-infected individuals at different clinical stages such as, acute, chronic, non-progressor and uninfected stage which show rates of disease progression in each stage. She discussed the method of collecting experimental dataset from sample raw dataset. After doing several experiments on preprocessed dataset, she found a number of genes which had also been significant in different cancer diseases. It is also known for long that HIV infection destroys total immunity of the host cell, and it may cause cancer. Dr. Barman told in her lecture that if scientists want to do the further work with identified genes, the drug target of cancer can be investigated which may help to invent the drug of the disease of cancer. After her lecture, the audience interacted with her virtually, and showed their interest on the topic.

2nd lecture of that day was 4th Dr. Murali Mohan Biswas Memorial Lecture 2020. Prof. Santanu Das read out the short biography of the speaker, Dr. Samir Kumar Ghosh who is a physician and Founder Member of ISEC. The topic of the lecture was "Discussion on Covid-19". At the beginning of his lecture, Dr. Ghosh expressed his gratitude

to Prof. Murali Mohan Biswas and stated that he always obeys the philosophical ideology of Prof. M.M. Biswas. He told that Prof. Biswas had been like his elder brother. He thanked ISEC for organizing such a memorial lecture in virtual mode. In his lecture, he discussed on pandemic and why Covid-19 is called a pandemic disease. He told to keep safe distance with others and the utility of wearing mask in this situation. However, he also questioned the feasibility of keeping a physical distance of 2 metre in the densely populated cities and places in India. Sanitization is important to keep one safe. Dr. Ghosh ended his lecture by thanking the organizing committee. After that an interaction session was there to discuss the matter with him.

At the end, Prof. Santanu Das, the Secretary, ISEC delivered the vote of thanks to the speakers, Seminar Committee, EC Members of ISEC, all the audience, the Fourth Lane YouTube Channel for broadcasting the entire program to their channel and others who helped to arrange the event online.

Bandana Barman
EC Member, ISEC

Report on Celebration of World Space Week, 2020 on October 10 2020

To celebrate the World Space Week, 2020 during October 04-10-2020 worldwide, the Institute of Science, Education and Culture (ISEC), Kolkata organized a webinar on 10th October, 2020 through Google Meet platform. Prof. Santanu Das, the Secretary of ISEC, Kolkata, delivered the Inaugural Speech. He thanked the speaker, Er. Subrata Halder of that day and welcomed all the audience present there. As the President of ISEC, Prof. Anil Kumar Ghosh was not available on that day, Dr. Swapna Mukherjee, the Vice-President and the Chairperson of Seminar Committee welcomed all. Prof. Das read out the short biography of the Speaker, Er. Subrata Halder, Executive Council Member, ISEC and Executive Engineer (A-I), Water Resources Investigation &

Development Department, Govt. of West Bengal, and invited him to deliver the lecture. The title of his lecture was "Space-Based Remote Sensing for Digital Earth".

At the very beginning, Er. Halder mentioned that in 2020, World Space Week is dedicated to satellites and keeping huge benefits in mind, the theme had been decided to be "Satellite Improves Life". He discussed on the concept of remote sensing and remote sensor which mean to obtain and gather a large amount of information from a far distance where remote sensors act as digital earth. He told that since the launch of first satellite, Sputnik, Space Age had been started. The Department of Space, Indian Space Research Organisation (ISRO) started their work in 1979 by

launching Bhaskara 1 in space. He told that there are three types of satellite orbits used at present. Those are polar or non-polar, low earth orbit and geostationary orbit. According to change in light wavelength, the electromagnetic energy of light wave varies, so that electromagnetic spectrum is developed and satellite can obtain the information from all types of parameters. If radiometric resolution is high, then more information can be collected and stored. The spectral resolution and temporal resolution collect space and time based information. In remote sensing, analyses of satellite images are very important to understand the geographic situation of a particular area. For this, different image and data analysis techniques are designed and implemented over there.

To get a clear idea of forest cover texture/vegetation/chlorophyll motoring, water/flood condition, surface water weather condition, soil moisture/ground water monitoring, snow cover monitoring, several approaches are developed by the scientists. The false colour composite image

contains multispectral SPOT image, whereas natural colour composite image contains three basic colours (Red, Green, Blue). All images may be collected through RADAR in space craft. The turbidity monitoring means to understand the optical property of the water, so that impurity of water can be investigated. From his lecture, the audience was able to get an idea on remote sensing and work of remote sensor applications. After his lecture, an interactive session was there. He told that by using GIS mapping, the covid-19 pandemic situation can be predicted and from any open cut field, the possibility of understanding the place of mines can be investigated.

After his lecture, Prof. Santanu Das expressed vote of thanks to the speaker, Er. Subrata Halder, Dr. Swapna Mukherjee, the Chairperson of Seminar Committee, ISEC, and the convener of that day's seminar Mr. R.K. Pratihar, the audience of the webinar, The Fourth Lane YouTube channel, and others.

Bandana Barman
EC Member, ISEC