

REPORT

Special Lecture Series in Life Sciences (*SLS-LSc, NSOU*) School of Sciences, Netaji Subhas Open University

Date and Time: 10th September, 2020; 3:00 pm – 4:30 pm
Lecture Series: SLS-LSc, NSOU
Lecture Code: P1-20/01
Lecture Topic: *Genomics of head and neck cancer and our recent investigations in SARS-CoV-2*
Speaker: Dr. Arindam Maitra, Associate Professor, National Institute of Bio-Medical Genomics (NIBMG), Kalyani, Nadia, West Bengal, India

BACKGROUND

Organizer: Organized by the Life-Science Faculties of School of Sciences, Netaji Subhas Open University, West Bengal, India. The Organizing Committee members are –

Prof. Kajal De, Professor, Director, School of Sciences [Chairperson]
Dr. Anirban Ghosh, Associate Professor in Zoology [Organizing Secretary]
Mr. Sandip Das, Assistant Professor in Botany [Convener]
Dr. Bibhas Guha, Assistant Professor in Zoology [member]
Mr. Niladri Sekhar Mondal, Assistant Professor in Environmental Sciences [member]
Mr. Ashif Ahamed, Assistant Professor in Zoology [member]
Prof. Nanda Dulal Paria, Professor in Botany [Advisor]
Dr. Sanjay Mondal, Associate Professor in Zoology [Advisor].

Platform: The information and communication technology (ICT) partner of the University, namely, M/S. School Guru extend the LMS platform for this SLS-LSc programme. The advertisement of the programme through banner/flyer had been circulated in the NSOU website with Registration links. The lecture was performed in a Zoom application based environment in the LMS domain of the University, followed by a Feedback and Certificate generation process for the participants.

About the Programme: The Special Lecture Series in Life Sciences (SLS-LSc, NSOU) is a web-based lecture series by the eminent academicians and scientists who are invited and commissioned by the SLS-LSc, NSOU organizing committee to deliver their precious knowledge to the audiences. This SLS-LSc, NSOU initiative had been conceptualized during the Covid-19 pandemic driven lock-down period when all regular academic activities was

stalled and only the web-based virtual platforms were available to interact and exchange knowledge between the learned community and learners. Then such a lecture series had been planned to enrich the faculties, counsellors, learners and for anyone interested in the higher learning and understanding who are associated with this University and simultaneously, to others from different Universities and institutes. The lecture topics and speakers had been planned to choose in such a fashion so that the series of lectures can highlight the frontier developments and trends in different arenas of Life Sciences and thereby disseminating such knowledge and understanding to the greater periphery of Open University learners and society.

With the kind approval from the Honourable Vice-Chancellor of the University and the guidance from the Director of School of Sciences, the eminent speakers from India and abroad are empaneled and scheduled for their lecture followed by an interaction session with the organizers and participants in the virtual platform provided through the ICT domain of NSOU, documented and archived for future. This programme is intended to continue in post-Covid neo-normal academic environment and expected to reach a larger audiences beyond Netaji Subhas Open University with its quality and appeal.

Target Audiences: This programme is for anyone who is interested to know the current developments and frontier trends of Life-Science researches and advancements. Primarily, this is a learning environment which is expected to cater anyone interested in higher learning in life-sciences and to understand present trends of researches in the domain. Specifically, the post-graduate students, research scholars, faculties and counsellors of different Universities, institutes and colleges are the target audience for this lecture series.

ON THE SPECIAL LECTURE EVENT ON 10.09.2020

About the Speaker: Dr. Arindam Maitra is an Associate Professor of the National Institute of Bio-Medical Genomics (NIBMG), Kanyani, West Bengal, India. NIBMG is an autonomous research institute under the Department of Biotechnology, GOI and a premier research institute of our country. His research interests include genomics of head and neck and gastric cancer and genomics of preterm birth. Dr. Maitra is interested to uncover important and novel information on human health and disease by harnessing emerging genomics technologies like massively parallel DNA sequencing methods (MPS), deep sequencing, single-cell RNA sequencing and other state of the art technologies of modern Genomic research. Dr. Arindam Maitra is also the Faculty In-Charge of Core Technologies Research Initiative and the Project Coordinator of International Cancer Genome Consortium – India Project. He is a recipient of the Grand Challenge India funding for development of method to predict adverse pregnancy outcomes using clinical, genomics and proteomic markers of maternal stress. Dr. Maitra maintains a large collaborative research network and crowns the post of investigator of several prestigious projects funded by the Department of

Biotechnology, Government of India. He is a very active and prominent scientist of the country who is presently spearheading the 1000 SARS-CoV-2 RNA Genome Sequencing Consortium and his lab is one of the most active laboratories in the country within this Covid Pandemic.

Abstract of the Lecture: Head and neck squamous cell carcinoma (HNSCC) is the predominant cancer type in men in India and characterized by unique and diverse modes of exposure and poor disease free survival in the subcontinent. We undertook deep excavations of the underlying omic landscape of HNSCC. As a part of the Indian initiative in ICGC, we undertook deep sequencing of gingivobuccal oral cancer, major subtype of HNSCC and identified nuclear and extranuclear drivers of the cancer. We also undertook genome wide DNA methylation analysis and RNA-Seq of tumours from patients of oropharyngeal cancer in the northeastern state of Meghalaya, where this subtype of HNSCC is abundant. We identified tumour specific DNA epigenetic controls of transcription which might be playing important roles in carcinogenesis. Finally, we have now initiated single cell transcriptomic analysis of oral tumours, to illuminate the cell type diversities in tumour microenvironment. I will present our findings obtained till date. I will also present a snapshot of our recent investigations in SARS-CoV-2 viral genome sequencing that is being undertaken in the 1000 SARS-CoV-2 RNA Genome Sequencing Consortium.

Proceedings of the Lecture on 10.09.2020:

The day's programme started at 3:00 pm as per schedule. This was the first lecture of this SLS-LSc, NSOU initiative. A total number of 65 participants were recorded in the web-platform where a considerable number of participants were found from different other institutes apart from the participants associated with NSOU.

Participants were welcomed by Dr. Anirban Ghosh as the Organizing Secretary of the programme. With his short introductory note the motto of the programme had been briefed to all and he also mentioned to rules of the webinar to the participants. Then Dr. Ghosh invited Prof. Kajal De, Director, School of Sciences of NSOU, and the Chairperson of the Organizing Committee, to deliver her presidential address to the audiences.

Prof. Kajal De welcomed the honourable speaker and all participants in the programme on behalf of NSOU family. She described the background of arranging such special lecture series by the School of Sciences and how the university authority had supported such initiatives. She also discussed the role of the University and future directives to spread the knowledge. Prof. De mentioned the kind support and approval of the honourable Vice-Chancellor Prof. Subha Sankar Sarkar to initiate this programme. She also revealed the efforts of the organizing secretary Dr. Anirban Ghosh, convenor Mr. Sandip Das and other committee members and the support of M/s. School Guru for their ICT support in this

programme. Finally, Prof. De welcomed the distinguished speaker and initiated technical session.

Thanking Prof. De for her valued address, Dr. Ghosh had taken the charge to introduce the honourable speaker Dr. Arindam Maitra to all participants. Then Dr. Ghosh transferred the platform to the day's speaker Dr. Arindam Maitra for his lecture.

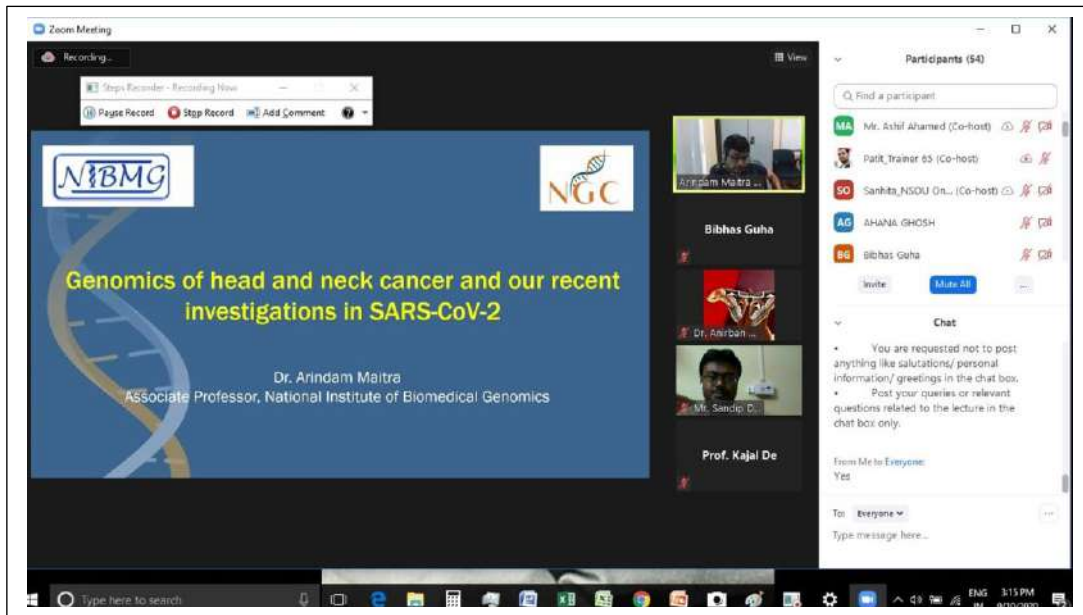
Dr. Maitra started his lectures from the basic genomic findings on cancer and then entered into the genomics of head and neck cancer as his research interest. He vividly explained the genomic findings of the cancer in their population based studies and mentioned in depth findings in the population of north-eastern population of India on the oral cancer type they are studying. He explained the relation and significance of the study findings with respect to the global research and findings to the audiences. The use of different techniques were also highlighted which paved the way towards their finding. Also Dr. Maitra elaborated the epigenomic regulation in cancer progression. Their utilization of transcriptome data in revealing the heterogeneity of tumour environment had also been discussed. In the final part of his lecture, the speaker shared their finding in a wide population based studies in India on Covid infection. He revealed that how Indian population bears different subtypes, more diverse than European and N. American subtypes, of the virus with their distribution patterns in the geographical landscape. He also exposed that how only two of the viral subtypes are now monopolizing the infection in the population of the subcontinent.

Dr. Maitra's lecture were very much informative and discussed about cutting edge technologies and their implications in modern population based genomic research. The findings shared by him was also provided the audience a newer insight.

This speech was followed by an elaborate interaction and discussion session. That session was moderated by the Convener Mr. Sandip Das of SLS-LSc, NSOU and two of the members Mr. Ashif Ahamed and Mr. Niladri Sekhar Mondal. They presented a number of questions to the speaker after screening the queries from the participants and also conveyed their own questions to make the interaction session very interactive. Dr. Maitra discussed the queries in details and shared many of the views and thoughts with the team in front of the audiences.

Finally, the Mr. Sandip Das, convener of the programme expressed the 'Votes of Thanks' to all. The team was indebt grateful to the speaker Dr. Arindam Maitra from NIBMG for sharing time from his busy schedule to deliver his precious lecture to the audiences hosted by NSOU. The convener, expressed his gratitude to the honourable Vice-Chancellor Prof. Subha Sankar Sarkar for his support and approval and he also thanked Prof. Kajal De, Director of School of Sciences, NSOU for her constant encouragement and guidance to make this programme a success. He expressed thanks to the audiences who make this first SLS-LSc, NSOU lecture a success by their presence and also expressed 'School Guru' for their ICT support.

Finally, Dr. Anirban Ghosh announced the closer of the session with a request to the participants to fill the feedback forms and inviting all to participate in the next lecture which will be announced within weeks. The programme ended at 4:30 pm.



Feedback Analysis

