

DBT-NCCS holds webinar on genetic links to breast cancer

New Delhi, Nov 05: Celebrities like film actors have contributed to creating awareness among people about cancer, especially the genetic links to breast cancer. However, people may still harbour many misconceptions and ignorance about this. For instance, they may be unaware that breast cancer is not a single disease, but rather a collection of many diseases that are known to be genetically different from one another. It is now becoming increasingly evident that this diversity exists not only between tumours, but also within tumours, called intra-tumour heterogeneity. Moreover, these differences can influence the progression of the disease and resistance to therapy.



To increase awareness on this topic, and about the role that data science plays in cancer research, a webinar on the topic, ‘Translating the Breast Cancer Genome’ was organized on 29 October, 2020. This session was presented by Dr. Rachael Natrajan of The Institute of Cancer Research, London, UK.

The focus of Dr Natrajan's work has been to identify and understand the role of recurrent somatic molecular alterations on the progression of breast cancers and resistance to therapy and to identify new ways of treating these patients based on these alterations.

She discussed the strategies they have implemented in the lab to decipher the function of some of the recurrent mutations identified from large scale sequencing initiatives such as The Cancer Genome Atlas (TCGA) Program of the National Cancer Institute, USA. The webinar was open to all and was free of cost.

It was organized under the auspices of the “Manav: Human Atlas Initiative”, a collaborative project between the National Centre for Cell Science (DBT-NCCS), the Indian Institute of Science Education and Research (IISER-Pune) and Persistent Systems, Funded by the Department of Biotechnology (DBT), Government of India, and co-funded by Persistent Systems, this initiative is exemplary of a public-private partnership.

The “Manav: Human Atlas Initiative” aims to annotate the extensive information related to the human body that is available in the scientific literature and databases, and initiate steps towards creating a human atlas eventually. The project aims to help students across India to learn how to comprehend and analyze scientific literature, and extract relevant information from it using a digital annotation tool. Online workshops on how to read scientific literature are also routinely conducted. Colleges interested in having a session organized for their students can write to manav.iiserpune@gmail.com. Students, faculty members and researchers interested in participating in the project can learn more from the project’s website (<https://manav.gov.in/>) and social media: Twitter (Manav Human Atlas; @ManavAtlas) &

Facebook (MANAV Human Atlas). The Rajya Sabha TV has also featured this initiative on Gyaan Vigyaan & Science Monitor.

This webinar is one of several in the data science webinar series which was initiated to help increase awareness about various aspects of data science. This includes applications of data science across disciplines, from public health and pandemics to astronomy, as well as the entrepreneurial opportunities available in this field. These webinars also give the participants an opportunity to interact with experts from diverse fields around the world, during the Q&A session. This series is aimed mainly at college students, but is open to everyone. The data science webinar series was initiated to meaningfully engage students and other science enthusiasts in an interactive educational experience during the lockdown. It was kick-started at the end of April with a webinar on “R0: How scientists quantify the intensity of an outbreak”. This was followed by webinars on diverse topics, including “Data Science Approaches for Genomics and Pandemics”, “Biomedical NLP at Scale: Automated inference of Biological Networks”, “The Future Research Scientist in the Age of AI and Big Data”, “When and where to divide to conquer: Personalized medicine using systems and machine-based biology approaches”, “Game Theory: Applications in biology & in a pandemic”, “Networks matter! Estimating the spread of disease in heterogenous, connected environments”, “Machine Learning & Deep Learning Applications in Astronomy & Biology”, “Personalized Precision Cancer Therapy”, “Entrepreneurial Promises of Data Science”, “Introduction to AI & Machine Learning for Biologists” and “Combining Machine Learning & Modeling Approaches to Map Protein Structure-Function Relationships: Applications to Prediction & Design”. This series has been hugely successful, having attracted thousands of registrations, mainly from students. Given its popularity, the previous webinars have now been made available on the project’s YouTube channel, to anyone interested in listening to these talks.

Links related to this story -

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YouTube Channel (archived webinars): Manav - The Human Atlas Initiative

‘Manav: Human Atlas Initiative’ is featured by Rajya Sabha TV on

Gyaan Vigyaan: <https://youtu.be/Ule08azR1ww>

Science Monitor: <https://www.youtube.com/watch?v=IMgTw6rXTGQ>

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