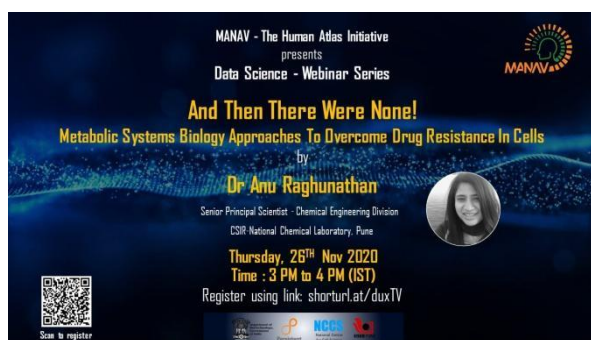


DBT-NCCS webinar on role of data science in studies on drug resistance

New Delhi, Dec 02: The mechanisms leading to the emergence of drug resistance is a hot topic for research, given that drug resistance is one of the main causes of failure of treatment regimens. The importance of systems biology, which is the holistic study of interacting genes, gene products and metabolic pathways of cells and organisms as a whole, is increasingly gaining recognition as the preferred approach for such studies.



To create awareness about the role played by data science in such drug resistance-related research, a webinar on the topic, 'And Then There Were None!' was organized on 26 November, 2020, under the 'Manav: Human Atlas Initiative' programme, 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.

Dr. Anu Raghunathan, Scientist at CSIR-NCL in Pune, spoke about metabolic systems biology approaches to overcome drug resistance in cells. She discussed how this approach can provide valuable insights into the changes in the cellular molecular machinery, which are associated with the emergence of drug resistance, and also help identify alternate therapies to sensitize drug resistant cells and combat resistance.

The webinar was open to all and free of cost. It is one among many in the data science webinar series organized under the auspices of the "Manav: Human Atlas Initiative". Funded by the Department of Biotechnology (DBT), Government of India, and co-funded by Persistent Systems, this initiative is an example 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 data science webinar series 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 educative 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", "Combining Machine Learning & Modeling Approaches to Map Protein Structure-Function Relationships: Applications to Prediction & Design", and "Translating the Breast Cancer Genome". 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 -

* Twitter: @DBT_NCCS_Pune
https://twitter.com/DBT_NCCS_Pune/status/1329753244416045056

* Facebook: DBT - National Centre for Cell Science
https://www.facebook.com/permalink.php?story_fbid=3625656744160124&id=509782325747597¬if_id=1606011615177093¬if_t=page_post_reaction&ref=notif

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

* 'Manav: Human Atlas Initiative' 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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