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Is monkeypox strain detected in India different from Europe outbreak? Read here

CSIR-IGIB

30th July, 2022

Monkeypox: The reports also suggests that this A.2 variant which has largely been found in the US and Thailand, is not linked to major cluster B.1 which has been found in large parts of Europe.

In a new revelation, the genome sequencing reports of the first two monkeypox cases reported in India suggests that they were infected with A.2 strain of the virus which is different from the one causing the monkeypox outbreak in Europe with B.1 variant, according to an analysis by scientists at CSIR Institute of Genomics and Integrative Biology (CSIR-IGIB).

The reports also suggests that this A.2 variant which has largely been found in the US and Thailand, is not linked to major cluster B.1 which has been found in large parts of Europe, according to news reported by Hindustan Times. However, there is no evidence yet that either of the strain is more infectious.

“Genome sequencing data from two monkeypox patients from Kerala are infected with A.2 variant, which is different from B.1 lineage that is being spread in parts of Europe,” said Vinod Scaria, genome sequencing scientist at IGIB as quoted by HT.

He said, “Genome sequences have been deposited for two samples (EPI_ISL_13953610 and EPI_ISL_13953611) along with two re-sequenced genomes from isolates of one of the sample. Both the isolates were from early cases reported from Kerala and both cases have a travel history.”

The scientist said that the present sustained human to human transmission of the monkeypox virus is believed to have happened via superspreader events in Europe with over 16,000 cases

now spread across more than 70 countries. He also stated that many genomes across the world are represented as the B.1 lineage of the virus and encompass the predominant lineage for genomes in 2022, however, a very small number of genomes belong to a distinct cluster A.2.

“The earliest sample in the cluster from US is indeed from 2021 suggesting the virus has been in circulation for quite some time, and earlier than the European events,” he added.

Meanwhile, Dr Priya Abraham, director, ICMR-National Institute of Virology, Pune explained that all viruses undergo slow evolution over time and they form different evolutionary branches, hence, no cause of panic or alarm is there.

“It is too early to provide any detail about the two variants of monkeypox infection, that is, A.2 and B.1. The samples that we had submitted from Kerala are falling under A.2 strain. Studying about samples and behavior of mutations will take some time,” said Dr Pragya Yadav, a senior scientist at NIV Pune as reported by HT.

Monkeypox is transmitted to humans through close contact with an infected person or animal, or with material contaminated with the virus. It is usually a self-limited disease with symptoms lasting from two to four weeks, WHO said.

CSIR – NML virtual lecture session for students on Fractal Geometry

CSIR-NML

30th July, 2022

Jamshedpur, July 30: CSIR-National Metallurgical Laboratory (NML), Jamshedpur, organized a virtual lecture session on Fractal Geometry for teachers and senior school students under the CSIR-Jigyasa Virtual Laboratory project undertaken to make science learning interesting. The keynote speaker on the occasion was the Chief Scientist and Head of KRIT Division at CSIR-NML, Dr Mita Tarafder. The host for the virtual programme, Pragati Jha welcomed the keynote speaker, Dr Mita Tarafder and participating teachers and students in the programme on Fractal Geometry. Pragati introduced the guest speaker to the audience on virtual mode. The teachers and students participating in the virtual event introduced themselves prior to Dr Tarafder's discussion on Fractal Geometry.

Chief Scientist and keynote speaker, Dr Mita Tarafder commenced her presentation with the basic concepts of geometry that dealt with size, shape, and dimensions. She briefly discussed the history of the Fractal through examples and elaborated on various other concepts like Self-similarity, Fibonacci Sequence, Golden Ratio and Butterfly Effect. The overall presentation touched several avenues and enhanced the knowledge of the more than 25 participants in the virtual programme.

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[Avenue Mail](#)

IIM Jamshedpur Chapter organises MS Khan Memorial Lecture

CSIR-NML

29th July, 2022

Jamshedpur, July 29: The Indian Institute of Metals (IIM), Jamshedpur Chapter organised a function on July 28, 2022 to felicitate all the awardees who are associated with this chapter of IIM and have received prestigious awards at the IIM ATM and NMA function. The function was conducted in an online platform.

Dr A N Bhagat, Head Surface Engineering Research Group, Tata Steel and Chairperson, IIM Jamshedpur Chapter delivered the welcome address.

This was followed by virtual felicitation of the awardees. The professionals who received awards in different categories are: Sudhansu Pathak, ex Tata Steel recipient of IIM Fellowship, Dr Debashish Bhattacharjee, VP (T&NMB), Tata Steel recipient of IIM TATA GOLD MEDAL, Ravindra Sangwai, Chief LD#3 and TSCR, Tata Steel recipient of IIM MECON AWARD, Dr Pratik Swarup Dash, Tata Steel recipient of Certificate of Excellence (R&D in Iron & Steel Sector), Dr Chiradeep Ghosh, Tata Steel recipient of IIM Certificate of Honour, Ashutosh Ghosh, Baldwin School, Jamshedpur recipient of BPMME2021 elocution contest, Aditya Sarda, Tata Steel recipient of P K DAS GUPTA AWARD for best oral presentation in ATM in 'Ferrous Process Metallurgy' category, Dr Sanjay Agarwal, CSIR-NML, Jamshedpur recipient of P K DAS GUPTA AWARD for best oral presentation in ATM in 'Non-Ferrous' category, Shaik Mahaboob Basha, Tata Steel recipient of ATM oral presentation award, Boina Sagar, Tata Steel recipient of ATM oral presentation award, Dr Sanjay Agarwal, CSIR-NML, Jamshedpur recipient of ATM oral presentation award, Ved Prakash, Tata Steel recipient of ATM oral presentation award, Uma Sankar Sahoo, Tata Steel recipient of ATM Poster Presentation Award, Ujjwal Chandrakant Chaudhari, Tata Steel recipient of ATM Poster Presentation Award, Ved Vineet, Tata Steel recipient of ATM Poster Presentation Award, Vandana Kumari, Tata Steel recipient of ATM Poster Presentation Award, Prabhash Gokarn, Tata Steel recipient of ATM Poster Presentation

Award, Pratyush Ranjan Samantaray, Tata Steel recipient of ATM Poster Presentation Award, E Zachariah Chacko, Tata Steel recipient of ATM Poster Presentation Award, Binesh Shaw, Tata Steel recipient of ATM Poster Presentation Award, Santanu Pahari, CSIR-NML, Jamshedpur recipient of ATM Metallography Contest Award, Priyanka Pandey, Tata Steel recipient of ATM Metallography Contest Award, Dharendra Prasad, Tata Steel recipient of M S Khan Memorial Award.

Dr Sandip Ghosh Chowdhury, Chief Scientist CSIR-NML and Vice Chairman of IIM, Jamshedpur Chapter introduced Professor Indranil Manna, Vice Chancellor, BIT Mesra and the speaker of M S Khan Memorial Lecture. Every year this memorial lecture is arranged on the same day of the felicitation function.

Professor Manna delivered a lecture on 'Laser Assisted Additive Manufacturing'. In his lecture he talked about the advantages and the limitations of the process. This particular technology is already established with many success stories. This has a good future potential as well. The overall scope, novelty and precision in additive manufacturing are emerging with time. However, new manufacturing base with time sharing job shops; material with desired composition, size and morphology are needed. He concluded his talk by saying 'Opportunities galore, imagination is the limit'.

At the end of the talk, a brief question and answer session saw good response from the audience. The emcee Anushri Nag thanked Professor Manna for his talk and handed over a memento to him. Dr A N Bhagat, Chairperson of this chapter introduced the Guest of Honour of the evening Dr. Indranil Chatteraj, director CSIR-NML. He delivered a short speech, and a memento was presented to him as a mark of gratitude for honouring the occasion with his presence. More than 100 people attended the lecture. The program was concluded with vote of thanks by Dr Chiradeep Ghosh, Secretary of IIM, Jamshedpur Chapter.

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Workshop on civil engineering at NIT Trichy

CSIR-SERC

29th July, 2022

TRICHY: Aimed at sensitizing and familiarizing researchers with consideration of uncertainties in analysis and design of civil engineering systems and components, the department of civil engineering at NIT-Trichy organized a high-end workshop on advanced techniques in civil engineering on .

The workshop on Advanced Techniques for Uncertainty Modelling and Quantification in Civil Engineering began on July 18 and ended on July 23. It was organized under 'ABHYAAS' programme of Accelerate Vigyan funded by Science and Engineering Research Board (SERB). During the inaugural ceremony, M B Anoop, senior principal scientist, CSIR-SERC, was the chief guest. The inaugural meeting was presided over by the director of the institute Aghila. G Swaminathan, head of the department, K Baskar, and organizer Greegar George spoke on the occasion.

Dr. V. M. Tiwari, Director, CSIR-NGRI has been awarded with National Award for Geoscience and Technology for the year 2022

ఎన్జీఆర్ఐ డైరెక్టర్ కు నేషనల్ జియో సైన్స్ అండ్ టెక్నాలజీ అవార్డు

ఉప్పల్, జూలై 28: నేషనల్ జీయోఫిజికల్ రీసెర్చ్ ఇనిస్టిట్యూట్(ఎన్జీఆర్ఐ) డైరెక్టర్ డాక్టర్ వీఎం తివారికి నేషనల్ జియోసైన్స్ అండ్ టెక్నాలజీ అవార్డుకు ఎంపికైనారు. ఈ మేరకు సైన్స్ అండ్ టెక్నాలజీ శాఖ సహాయ మంత్రివర్యులు డా.జితేంద్ర సింగ్ చేతుల మీదుగా న్యూఢిల్లీలో అవార్డును అందుకున్నారు. పృథ్వీ వ్యవస్థకు సంబంధించిన శాస్త్ర విజ్ఞానాలలోని వివిధ రంగాలలో చేసిన సేవలను గుర్తించి ప్రభుత్వం అవార్డుకు ఎంపిక చేసింది. భూ ఉపరితలంపై, భూగర్భంలో ద్రవ్యరాశి వ్యాప్తి, ద్రవ్యరాశి రవాణకు సంబంధించిన భూ భౌతిక దృగ్విషయంపై



డా.తివారి పరిశోధన చేస్తున్నారు. పరిశోధనలు భారతీయ లిథోస్పియర్ లోని వివిధ భూగర్భ అమరికల నిర్మాణం, గతిశీలతను వివరించడం, భారత ఉపఖండంలో నీటి నిల్వలోని వైవిధ్యం, ఉప ఐసోలిక్ అవక్షేపాల మాస చిత్రణపై దృష్టి సారిస్తాయి.

Namami Gange Programme (NGP) Is Dynamic And Evolving In Nature To Address The Emerging Needs And Priorities For Rejuvenation Of River Ganga & Its Tributaries

CSIR-NEERI

28th July, 2022

New Delhi : The Namami Gange Programme (NGP) is dynamic and evolving in nature to address the emerging needs and priorities for rejuvenation of river Ganga & its tributaries. Under NGP, State level annual action plans are prepared and projects are developed by the States and taken up for implementation after due approval process and efforts are made to complete the projects by their scheduled timelines.

Under NGP, State level annual action plans are prepared and based on that it was targeted that 127 sewerage and Ghat/crematoria projects were to be completed from 2019-20 to 2022-23. Out of the targeted 127 projects 80 projects have been completed till date.

During last three years, 122 projects have been completed resulting in creation / rehabilitation of 1068 MLD STP capacity, laying of 1580 km of sewerage network, development/rehabilitation of 82 ghats & 20 crematoria, river front development at Patna, e-flow notification etc.

Funds are being provided to the Ganga bank State Forest Departments of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal for afforestation works along the river Ganga based on APOs (Annual Plan of Operation) submitted by States. Till date, 30,071 hectares area has been covered with plantation under the Namami Gange programme.

Government of India releases funds to National Mission for Clean Ganga (NMCG), which is the empowered nodal agency for implementation of Namami Gange program nationwide. NMCG releases funds to State Governments /State Missions for Clean Ganga/CPSUSs/ Other Executing Agencies. Amounts released/expended by NMCG to various agencies, compiled State-wise, during the said period are given at Annexure-I.

NMCG has taken up scientific research/studies towards rejuvenation of river Ganga. Some of important studies are given below:-

1. Special and non putrefying of properties of river Ganga by CSIR-NEERI.
2. Generation of High Resolution DEM and GIS ready Database for part of River Ganga for NMCG- (By Survey of India).
3. GIS based mapping of microbial diversity across the Ganges for ecosystem service by CSIR- NEERI.
4. Rapid Assessment of Sand Mining and its impact on the Ganga river using Drone Technology by IIT-Kanpur .
5. Pilot TADOX technology in textile sector by TERI.

Government of India has launched Namami Gange Programme, an integrated umbrella programme, aimed to ensure effective abatement of pollution and conservation of river Ganga and its tributaries by adopting a river basin approach. Under Namami Gange comprehensive set of interventions in the areas of wastewater treatment, solid waste management, river front management (ghats and crematoria development), e-flow, afforestation, biodiversity conservation and Public Participation etc. are being taken up for the rejuvenation of river Ganga.

Further, for aquatic biodiversity conservation, 7 projects at an estimated cost of Rs.162.79 crore have been taken up under Namami Gange. These projects aim at Planning and management for aquatic species conservation and maintenance of ecosystem services in the Ganga river basin.

More than 56 lakhs of fish seed have been released in river Ganga for conservation and restoration of IMC & Mahseer. 930 number of turtles have been released in Ganga River apart from supporting the conservation & breeding of freshwater turtles & Gharial at Kukrail, Lucknow. In addition, four (4) rescue and rehabilitation centres for aquatic species have been established. This information was given by the Minister of State, Shri Bishweswar Tudu in a written reply in Lok Sabha today.

ANNEXURE-I

Amounts released/expended by NMCG to various agencies, compiled State-wise

State	F.Y. 2017-18	F.Y. 2018-19	F.Y. 2019-20	F.Y. 2020-21	F.Y. 2021-22	Total
Uttarakhand	242.49	341.44	128.20	124.82	143.63	980.58
Uttar Pradesh	549.88	823.77	821.09	472.46	440.21	3,017.41
Bihar	367.18	673.03	1,185.17	194.43	249.70	2,669.51
Jharkhand	21.72	74.23	30.50	28.03	13.61	168.09
West Bengal	249.35	227.62	70.60	105.06	134.43	787.06
Madhya Pradesh	—	—	—	—	—	—
Delhi	81.57	310.69	214.47	235.00	405.00	1,246.73
Haryana	6.88	—	—	—	—	6.88
Rajasthan	—	1.25	—	—	50.00	51.25
Himachal Pradesh	—	—	—	1.25	2.50	3.75
Other basin wide interventions, including NMCG's operational expenses	105.94	174.51	223.06	178.92	191.47	873.90
Grand Total	1,625.01	2,626.54	2,673.09	1,339.97	1,630.55	9,895.16

Note: Amount released/ expended by NMCG in a particular year includes unspent balance carried forward from previous years.

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New technology that deactivates COVID-19 virus in just 1 minute validated by CSIR IMTECH

CSIR-IMTECH, CDRI, NPL

27th July, 2022

A startup incubated at the Startup Incubation and Innovation Centre (SIIC), IIT Kanpur – AiRTH has developed a technology “Anti Microbial Air Purification Technology”, which can deactivate SARS-CoV-2 virus with an efficiency of 99.9% within just 1 minute.



The technology validated to be able to deactivate SARS-CoV-2 virus after being tested at CSIR-IMTECH has been developed jointly at IIT Kanpur and IIT Bombay. This proven path-breaking innovation against both air pollutants and the corona virus is named “Anti-Microbial Air Purification Technology”. Not only does it purify the air but it also helps to destroy germs, as well, thus ensuring complete protection.

According to an official statement issued by IIT Kanpur, research from leading universities of the world found air pollution combined with COVID-19 is far more severe and dangerous.

While he was pursuing his Masters in Environmental Engineering at IIT Bombay, Ravi Kaushik, the CEO and Founder of AiRTH, realized the limitations in the existing purification technologies. And that is how AiRTH was born. And with guidance and support from Prof Amitabha Bandopadhyay, Professor-in-charge of the Startup Incubation and Innovation Centre, IIT Kanpur, AiRTH was incubated.

The Department of Science and Technology (DST), played a very important role in testing the prototypes, and with validation from trusted and respected laboratories — CSIR-CDRI, CSIR-NPL, amongst others.

More about AiRTH novel technology

According to the IIT Kanpur statement, the new technology from AiRTH makes sure that the germs are deactivated. This is possible due to UV irradiations, its plant-based coating on the filters, and OH (Hydroxyl) radicals which work on a D-C-D (Deactivate-Capture-Deactivate) mechanism. This can have up to 8000 times better disinfection efficiency when compared to conventional UV-based air purifiers. AiRTH technology helps in deactivating airborne pathogens and viruses via in-flight deactivation, giving sufficient residence time to the contaminated air particles before optimizing the filtration and then disinfecting them.

Recently, in an event which was inaugurated by Prime Minister Narendra Modi to mark ten successful years of BIRAC, this innovation was selected for product launch among the 75 products. It has also been awarded the Nexus Start-up Development Grant which is an initiative by the US Embassy.

AiRTH has received a seed funding under the 'Nidhi4covid2.0', a special drive initiated by the National Science and Technology Entrepreneurship Development Board (NSTEDB) to support in fighting against the COVID-19 pandemic. AiRTH Anti Microbial Air Purifiers are being used in hospitals, and helping in giving protection to immuno-compromised cancer patients.

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