

STRIDES

Science, Technology, Research, Innovation & DEvelopmentS

BRINGS NEWS ON S&T DEVELOPMENT FROM DST SUPPORT AND BEYOND

EDITORIAL

The Indian youth has geared up for the start-up movement and the Independence Day was an occasion to celebrate this spirit of Atmanirbhar Bharat. While the Prime Minister in his Independence Day speech talked about Indians having emerged as an aspirational society and about start-ups opening up new opportunities for the younger generation, Union Minister for Science and Technology and Earth Sciences Dr Jitendra Singh highlighted that India now ranked 3rd globally in the start-up ecosystem. The month also saw experts discussing the way forward for a sustainable start-up ecosystem.

Significant publications also emerged from the programmes supported by the department on how obsolete antibiotics can counter multi drug resistant bacteria and also on an intriguing case of how some Himalayan glaciers were resisting the general trend of receding glaciers in the global warming scenario.

Scientists from the North East reported a newly developed biodegradable, biopolymer nano-composite which can detect relative humidity and be used as smart packaging materials, while astronomers studied a rare class of supernovae that hinted towards advanced stage of evolution of special class of very hot and massive stars.

The newsletter also features the achievements and activities of the Gujarat Council on Science and Technology (GUJCOST).

—DR AKHILESH GUPTA, EDITOR-IN-CHIEF

COVER STORY



India ranks globally 3rd in Start-Up ecosystem and also in terms of number of Unicorns: Dr Jitendra Singh

India ranks globally 3rd in Start-Up ecosystem and also in terms of number of Unicorns. As per the latest data, there are currently 105 unicorns, out of which 44 were born in 2021 and 19 in 2022.

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India being a leader in disaster management, the world looks up to us for global challenges such

as climate change: Dr Jitendra Singh

While inaugurating the 3-day International Conference on “Systems Analysis for Enabling Integrated Policy Making”, Union Minister Dr Jitendra Singh shared India's roadmap for climate protection and that noted Prime Minister Narendra Modi is playing a leading role in addressing this issue at global level.

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Editorial
Cover Story

Popular Science Stories
New Initiatives

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International
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POPULAR SCIENCE STORIES



Experts discuss the way forward for a sustainable startup ecosystem

“Startups should focus on invention for tomorrow and reinvest in new startups so that the startup ecosystem can continue,” said Secretary, Department of Science and Technology (DST), Dr. S Chandrasekhar, while addressing the valedictory session of the Startup Utsav.

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Capacity building can make India global leader in Good Laboratory Practice: DST Secretary

Secretary, DST, Dr S Chandrasekhar, highlighted that with Government's commitment and emphasis on further capacity building on Good Laboratory Practice (GLP) in the country, India is destined to be a global leader in the area.

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New scheme launched to augment research capabilities in state universities and colleges

A new scheme was launched to augment the research capabilities in a structured way to create a robust R&D ecosystem in state and private universities and colleges, including self-financed institutions working within these universities.

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Fig. 1 Large cyclic triaxial test facility at IISc and a tested specimen of pavement material with geosynthetic reinforcement

New testing facility can help construct better walls and roads

A new testing facility with more realistic assessment of dynamic soil properties have helped scientists in their attempt to design geosynthetics that can sustain severe earthquake conditions and also reduce the cost of construction of roads, according to a new study.

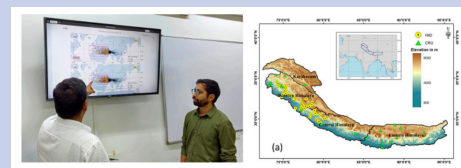
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Hydrophobic ingredients, in combination with obsolete antibiotics, can counter multidrug-resistant bacteria

A new ingredient that can weakly perturb bacterial membrane, thus

countering bacterial resistance to multiple classes of antibiotics, can help revive the efficacy of obsolete antibiotics.

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Scientists solve the curious case of Himalayan glaciers resisting global warming

Researchers have taken a significant leap toward solving the mystery of why few pockets of glaciers in the Karakoram Range are resisting glacial melt due to global warming, defying the trend of glaciers losing mass across the globe, with the Himalayas being no exception.

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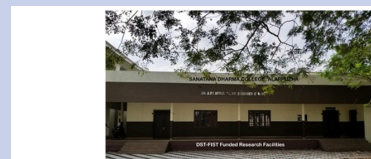


Fig. 2: APJ Abdul Kalam Interdisciplinary Research Centre in S.D College, Alappicha for the DST-FIST instrumentation facility

New low-cost, polymer-based electrode can increase electrochemical performance of supercapacitors in wearable integrated devices

A new low-cost, pristine, conducting polymer-based electrode/redox-active electrolyte

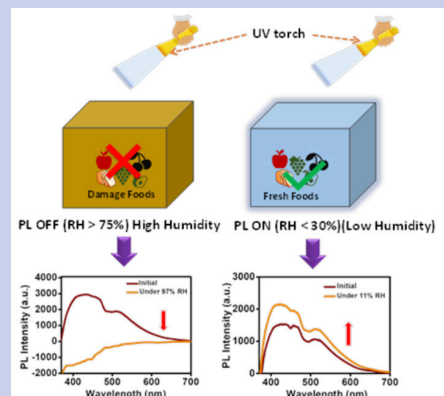


POPULAR SCIENCE STORIES



combination can give enhanced electrochemical performance and cycling stability to supercapacitors, facilitating energy storage and powering in wearable integrated devices.

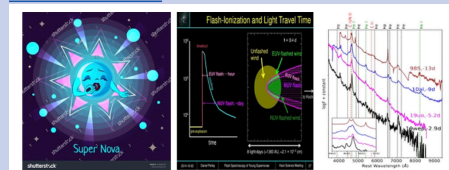
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Biodegradable biopolymer nanocomposite that detects relative humidity can monitor packed food freshness

A newly developed biodegradable, biopolymer nanocomposite which can detect relative humidity can find application as smart packaging materials, especially for the food industry.

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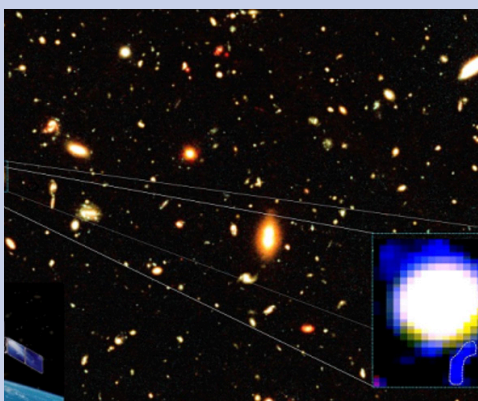


Deciphering of physical characteristics of a rare

class of supernovae hint towards advanced stage of evolution of special class of very hot & massive stars

A team of scientists have deciphered the physical characteristics of a rare class of supernovae called Type Ibn Supernovae (SNe).

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DST INSPIRE fellow leads study unveiling the secret of distant dwarf galaxy formation

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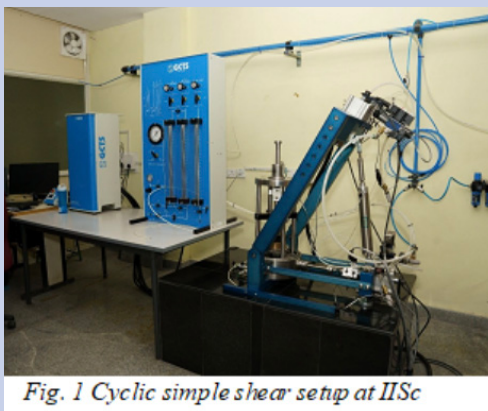


Fig. 1 Cyclic simple shear setup at IISc

Grain shape influences liquefaction of sand, a

major earthquake hazard

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SERB-INAIE Conclave on SERB Digital Gaming Research Initiative

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NAC discussed the way forward for National Initiative on Science, Technology and Statistics (NISTIS)

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INTERNATIONAL

Scientific administrators discuss collaborations on emerging technologies with US delegation

Secretary DST, Dr S Chandrasekhar highlighted the importance of connecting the scientists from India and US to collaborate on emerging technologies such as AI and smart connected cities at a meeting with the US delegation led by Dr Sethuraman Panchanathan, Director, National Science Foundation (NSF).

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Experts discussed best plans for Indo-US joint research projects to be implemented through TIHs

Experts from the India and United States interacted to bring out the best plans for joint research projects that would be implemented through the Technology Innovation Hubs (TIH), at DST-NSF Joint Research and Development Projects Kick-off Workshop.

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Researchers from Afghanistan, Bangladesh, Bhutan, Maldives, Myanmar, Nepal, Sri Lanka, Thailand recommended for ISRF fellowship to work in India

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IGSTC Industrial Fellowship Awardees -2022 felicitated

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NEW INITIATIVES

Call for SATHI proposal -2022

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FEATURED S&T COUNCIL



Gujarat Council on Science & Technology (GUJCOST) working for the future of science

Gujarat today prides itself as one of the states with the strongest R&D culture with sophisticated lab infrastructure comprising state-of-the-art instruments in different institutions and university departments for seamless research by the faculties and researchers.

Recently, to move forward in the direction of new and emerging areas, the Param Shavak supercomputing facilities have been established in 26 different engineering and research institutions in the state for high-end research. These transformative steps have been possible due to the critical role played by Gujarat Council on Science and Technology (GUJCOST).

The GUJCOST is supported by the Department of Science and Technology (DST), Government of India, since September 1986 to catalyze and strengthen the Science Technology and Innovation (STI) ecosystem of the State. It plays an important role in developing scientific temper among students & common citizens, promoting R&D and innovation, and creating a culture of Intellectual Property Rights (IPR) for the overall socio-economic development of the state. The dedicated STI policy developed by the council proves to be a guiding force for promoting and disseminating S&T activities in the state.

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