

STRIDES

Science, Technology, Research, Innovation & DEvelopmentS

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

EDITORIAL

It rained awards, all of them for innovative technological solutions from across India! The month of May brought the annual National Technology Awards which recognize technologies and innovations from entrepreneurs, startups, companies as well as incubators which nurtured the innovators. These annual awards, many of them received by well deserving women, serve as a major encouragement paving the path towards a technology-driven economy. They also serve as the building block for an Innovation Ecosystem in the country.

The month also saw the celebration of the 52nd Foundation Day of the department in which its officials introspected on their journey so far and formulated plans for the way ahead. The occasion highlighted the need to be conscious to new and emerging challenges and develop the best of technologies that are sustainable.

Spotting of a new member in an extremely rare group of stars, significant findings in drosophila evolution, how forest fires could play a spoilsport in India's solar aspirations, a wheat variety that makes excellent chapatis as well as new disinfectant technologies were also brought to the forefront.

Scientific administrators from across ministries deliberated on ways to make research assessment methods robust and inclusive so that new ideas that are relevant for India are encouraged and young talents get more opportunities.

—DR AKHILESH GUPTA, EDITOR-IN-CHIEF

COVER STORY



Union Minister Dr Jitendra Singh says, future belongs to technology-driven economy and

calls for building Innovation Ecosystem in the country

Union Minister of State (Independent Charge) Ministry of Earth Sciences, Minister of State (Independent Charge) Ministry of Science and Technology, MoS PMO and Minister of State Ministry of Personnel and Public Grievances Dr Jitendra Singh today said, future belongs to technology-driven economy.

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DST needs to invest in all sectors contributing to new & emerging challenges like Climate

Change: Secretary DST

51 years of the Department of Science and Technology (DST) sets the occasion for introspection of how far the mandate of the Department has been achieved and formulating the way forward, Secretary DST said at the 52nd Foundation Day celebrations.

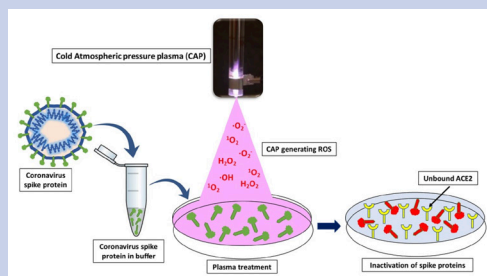
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Editorial
Cover Story

Popular Science Stories
New Initiatives

INSIDE THE E-NEWSLETTER

National Technology Awards



Plasma-based green disinfectants can limit spread of infectious diseases like COVID 19

Researchers have developed a plasma-based disinfectant generated with the help of cold atmospheric pressure plasma (CAP) which could act as a green decontaminant for COVID 19.

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A newly discovered episodically accreting young star could help probe this rare group in more details

Scientists have spotted a new member belonging to the extremely rare group of young stars that exhibit episodic accretion. Such rare stars have gained significant interest in the star-formation community lately and this study could help probe into this group of stars and their formation mechanism in greater detail.

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Scientific administrators discuss ways to make research assessment more robust

Scientific administrators from across ministries deliberated on ways to make research assessment

methods robust and inclusive so that new ideas that are relevant for India are encouraged and young talents get opportunities, at a workshop on Research Assessment Practices in Indian Funding Agencies.

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The fruitfly populations used in this study are housed as adults in Plexiglas cages.

Sexual conflict decreases with evolution of shorter effective lifespan of organisms

Researchers from JNCASR, an autonomous institution of DST who studied the evolutionary behaviour of fruitflies (*Drosophila*) as a model organism have found reduced levels of sexual selection in their laboratory populations selected for several hundred generations for rapid development from egg to adult, and for reproduction relatively early in life, when compared to their ancestral populations.

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Forest Fires can be an important factor in reducing solar power production in India

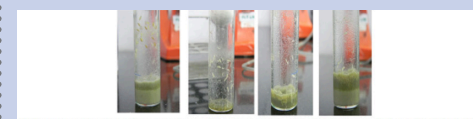
A new study has found that forest fires which plague different parts of India, especially during the summer season play a major role in reducing solar power production in India.

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New premium quality wheat variety gives soft and sweet chapatis

Researchers have developed a wheat variety, with excellent baking quality having soft and sweet chapatis. The wheat variety called 'PBW1Chapati' has been released at state level in Punjab for cultivation under timely sown irrigated conditions.

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Different combinations of egg number and food amount used in the study populations. The left vial is uncrowded ancestral control populations. The three vials to its right are from the three different selection regimes used in these studies.

Chronic larval crowding in fruit flies steers evolution towards larger and faster hatching eggs

Scientists have found that populations of insects that experience chronic larval crowding all evolve to give rise to larger and faster hatching eggs, even though they vary in other adaptations.

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New smart machine for making welding operations faster, energy-efficient and eco-friendly

Researchers have developed smart IoT-based machine for welding ferrous tubes faster than conventional fusion welding or solid-state processes presently used with less consumption of



POPULAR SCIENCE STORIES



energy.

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Researchers find ways for broader design & engineering of reconfigurable magnonic crystals that can transfer information more efficiently than electrons

Researchers have found ways for broader design and engineering of reconfigurable functional magnonic crystals, which can show the way for magnon based computing systems and bring about a paradigm shift in computing and communication devices.

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Scientists develop a new model for inferring density inhomogeneity in the solar corona

Scientists have developed a new theoretical model to quantify the inhomogeneity in density of solar corona generated by the turbulence in the electrically conducting, magnetized fluid present as plasma in it

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New low-cost iron aluminide coatings can increase corrosion resistance in harsh media to four times of mild steel

Scientists have developed low-cost Fe-based intermetallic powders that can be used as a corrosion-resistant coating for materials exposed to harsher environments like high temperature in thermal power plants where oxidation, corrosion, and wear and tear takes place simultaneously.

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IP transfer agreements signed for dementia drug molecule & Oxyjani

IP Transfer Agreements with industries, one on a molecule that could be a potential drug candidate for dementia and the other related to a robust, mobile group oxygen concentrator that can be used in remote settings and deployed in emergencies, would soon bring the two research endeavours to the people.

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Experts

discussed

implementation of National Education Policy for engineering disciplines & profession

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INTERNATIONAL

Renewed MoUs articulate new strategic direction for Indo-Canada S&T co-operation

Two MoUs were renewed at the 7th India-Canada Joint Science and Technology Cooperation Committee (JSTCC) meeting that took place in Ottawa, setting priorities for the next period in a variety of innovative fields.

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► NEW INITIATIVES

- DST-Accelerating CCUS Technologies (ACT4) Call and Indian Funding Guidelines

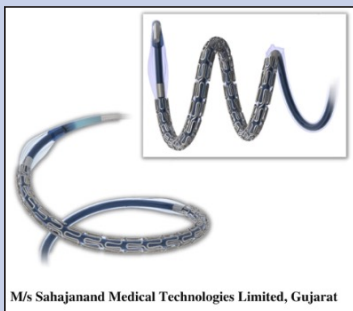
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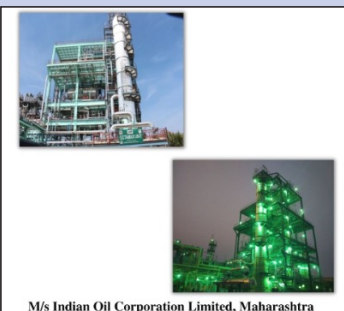
NATIONAL TECHNOLOGY AWARDS FOR THE YEAR 2021-2022



NATIONAL AWARD FOR SUCCESSFUL COMMERCIALIZATION OF INDIGENOUS TECHNOLOGY

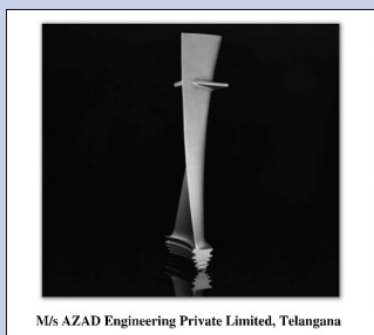


M/s Sahajanand Medical Technologies Limited, Gujarat



M/s Indian Oil Corporation Limited, Maharashtra

NATIONAL AWARD UNDER MSME CATEGORY



M/s AZAD Engineering Private Limited, Telangana

NATIONAL AWARD UNDER TECHNOLOGY START-UP CATEGORY



M/s Azsoka Labs Private Limited, Karnataka



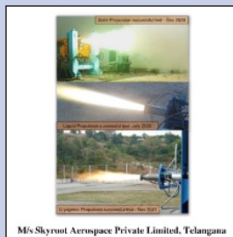
M/s QuNu Labs Private Limited, Karnataka



M/s Prayata 3D Inventions Private Limited, Maharashtra



M/s Zoid Labs (India) Private Limited, Kerala



M/s Skyron Aerospace Private Limited, Telangana



M/s Malliputhra Nutraceutical Private Limited, Karnataka



M/s HITPCART Technologies Private Limited, Rajasthan

NATIONAL AWARD UNDER TECHNOLOGY START-UP CATEGORY

WOMEN SCIENTIST IN TRANSLATIONAL RESEARCH (SENIOR/YOUNG)



Dr. Prathama S Mainkar

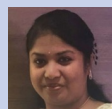


Dr. Sujatha Srinivasan



Dr. Ritu Trivedi

WOMEN SCIENTIST IN TRANSLATIONAL RESEARCH (YOUNG)



Dr. Divya Agrawal



Dr. A. Hepsiba Kiranmayee

WOMEN ENTREPRENEUR (SENIOR)



Dr. Lily Verma



Dr. Vibha Tripathi



Ms. Anuradha Moturi

WOMEN ENTREPRENEUR (YOUNG)



Dr. Anasuya Roy



Dr. Sarita Ahlawat

TECHNOLOGY BUSINESS INCUBATOR AWARDS – 2019 & 2020

★ NATIONAL AWARD FOR TECHNOLOGY BUSINESS INCUBATOR, 2019
Centre for Cellular and Molecular Platforms (CCAMP), Bangalore

★ NATIONAL AWARD FOR EMERGING TECHNOLOGY BUSINESS INCUBATOR, 2019
Indigrams Lab Foundation, New Delhi

★ NATIONAL AWARD FOR TECHNOLOGY BUSINESS INCUBATOR, 2020
Gujarat Foundation for Entrepreneurial Excellence, (iCreate) and Krishna Path Incubation Society-TBI, Ghaziabad.

★ NATIONAL AWARD FOR EMERGING TECHNOLOGY BUSINESS INCUBATOR, 2020
Research Innovation Incubation Design Laboratory Foundation (Riidl), Mumbai



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