SCIENCE AND SOCIETY NEWSLETTER

Innovations and Contributions by CSIR labs

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Seaweed steps into the spotlight

- The two-day Seaweed Expo & Summit 2026 held in Kochi brought together scientists, policymakers, industry leaders and innovators to explore seaweed as a promising marine resource.
- Strong emphasis was placed on institutional research and policy support to accelerate growth in India's seaweed industry during thge summit.
- Dr. Kannan Srinivasan, Director of CSIR-CSMCRI, highlighted India's growing scientific commitment and stated that seaweed can become a cornerstone of sustainable industrial development.
- Plans for a dedicated seaweed research institute in Tamil Nadu were discussed, along with expanding applications in biodegradable packaging and industrial products, supported by industry collaborations and grassroots promotion of cultivation.

Unexpected Rise of Lion-Tailed Macaques Near Human Settlements

- In the Anamalai Hills, the endangered lion-tailed macaque is increasingly thriving near human-dominated areas rather than deep forests.
- Researchers from CSIR-Centre for Cellular and Molecular Biology attribute this unexpected rise to easy food access but highlight risks such as road accidents, electrocution, and tourism pressure.
- Scientists warn that growth in non-protected areas may become a long-term threat despite appearing like a conservation success.
- This shift is linked to habitats like plantations, tourist trails, and expanding road networks, showing unusual adaptation to human presence

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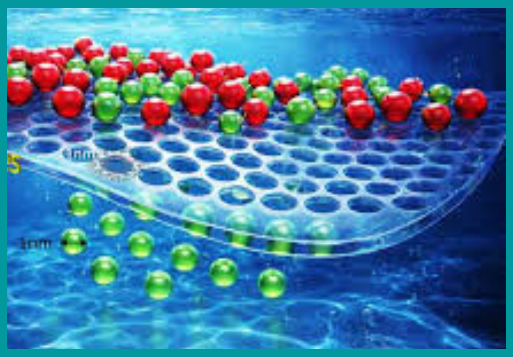

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CSMCRI develops membranes that will improve industrial water reuse, energy efficiency

- Scientists from the Central Salt and Marine Chemicals Research Institute (CSMCRI) and IIT Gandhinagar have developed ultra-selective membranes to improve water reuse.
- These new membranes are designed to significantly reduce energy consumption in industrial separation processes compared to traditional methods.
- The technology will impact water-intensive industries such as medicine purification, textile dye cleaning, and food processing.
- This innovation aims to replace expensive, high-carbon methods like distillation and evaporation, which currently pose potential risks to human health.

Medicinal smoke may help reduce airborne bacteria, study finds

- Scientists at the National Botanical Research Institute (NBRI), Lucknow, examined the antimicrobial effects of traditional medicinal plant smoke using modern microbiological methods.
- The study found that smoke produced from burning wood along with medicinal and aromatic herbs significantly reduced airborne bacterial load in controlled indoor environments.
- Airborne bacterial counts decreased by over 94% within 60 minutes of exposure.
- The air-cleansing effect persisted for up to 24 hours in closed rooms, indicating sustained antimicrobial activity.

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Palampur's tulip garden opens for visitors, boosting eco and scientific tourism in Himachal Pradesh

- Spring has arrived in colour in Palampur, with the town's tulip garden officially opening to the general public.
- Located at the CSIR complex along the Pathankot–Mandi National Highway, about 2 km from Palampur, the garden has been developed by the CSIR–Institute of Himalayan Bioresource Technology (CSIR-IHBT), marking a significant milestone.
- The garden features 50,000 tulip bulbs across six varieties, blooming in vibrant shades of red, yellow, pink, purple, white and multi-colour patterns.
- Carefully cultivated under mid-Himalayan agro-climatic conditions, the flowers create a striking contrast against the Dhauladhar mountain backdrop.

CSIR-NIIST develops 'Designer Rice' to tackle diabetes and hidden hunger

- CSIR–National Institute for Interdisciplinary Science and Technology (CSIR–NIIST) has developed a high-protein, low glycaemic index (GI) "designer rice" fortified with essential micronutrients to improve nutritional security without changing eating habits.
- The innovation addresses rising lifestyle diseases such as type-2 diabetes while tackling persistent protein and micronutrient deficiencies, often referred to as "hidden hunger."
- The initiative marks a significant step towards large-scale commercial production, ensuring wider consumer access to healthier staple food options.

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CSIR-NGRI launches enhanced rain gardens pilot to improve stormwater harvesting

- Upgraded Rain Gardens Pilot R&D Facility inaugurated at CSIR–National Geophysical Research Institute (CSIR–NGRI) to enhance groundwater recharge and strengthen urban water resilience through green infrastructure.
- The facility was inaugurated by NGRI Research Council Chairman Shailesh Nayak in the presence of Institute Director Prakash Kumar, Senior Scientist Dr. M. J. Nandan, and other officials.
- The upgrade features a redesigned hydraulic layout to manage higher runoff volumes and optimised engineered soil media for improved infiltration efficiency.
- Strengthened inlet–outlet structures and integration of geological, hydrogeological, and geophysical data aim to enhance regulated flow and aquifer recharge pathways.

Tidal flooding impact mitigation project gets under way at Ezhikkara

- Ezhikkara panchayat, located along the edge of Vembanad Lake in Ernakulam, faces tidal flooding for nearly six months each year, regularly inundating homes, wells and paddy fields.
- Scientists from CSIR's Structural Engineering Research Centre (SERC) have launched a pilot housing restoration project using salt-resistant Textile Reinforced Concrete (TRC) technology.
- During their visit, experts conducted detailed structural assessments of selected flood-affected houses to finalise restoration designs using TRC.
- The initiative, described as a first-of-its-kind effort in Kerala by Kochi-based Equinoct, is expected to be completed within two months.