17 May 2024

Telangana State Regional News

Discovery of TEX13B Gene	**Context:** ● Researchers at **CSIR-Centre for Cellular and Molecular Biology (CCMB) in Hyderabad,** identified the gene **'TEX13B' as crucial for male fertility and sperm cell development.** ● The study, published in the **'Human Reproduction' journal,** involved collaboration with the Infertility Institute and Research Center (IIRC) at Mamata Fertility Hospital in Hyderabad, Institute of Reproductive Medicine in Kolkata, and the Genetic Research Centre at ICMR-National Institute for Research in Reproductive and Child Health in Mumbai. **Research Method:** ● The researchers used **next-generation sequencing (NGS) to compare gene coding regions (exons) between infertile and fertile males.** ● They discovered **two causative mutations in the TEX13B gene,** one exclusively found in infertile men and the other more frequent in infertile men compared to fertile men. **Significance of Findings:** ● Dr. Umesh Kumar stated that the **TEX13B gene, located on the X chromosome, is inherited only from the mother.** ● Mothers carrying the **faulty TEX13B gene remain fertile, but when they pass on the X chromosome with the faulty gene to their sons, it leads to infertility.** ● **This discovery provides insights into male infertility causes, challenging conventional understanding.**
"In Retreat": Telangana Editor's Cannes Film Festival Success	**Context:** ● A film edited by Vuppuganti Raghavender, a resident of Wanaparthy district in Telangana, **has been chosen for the prestigious Cannes Film Festival.** **Key points:** ● The film, **named 'In Retreat,'** has a duration of one hour and fifteen minutes and will make its debut on May 20. ● This marks a significant achievement as it is the first film selected under the **Association for the Diffusion of Independent Cinema (ACID) Cannes program.** ● The storyline revolves around a man's return to his village after thirty years of seeking employment in distant lands.

	• Raghavender, an alumnus of the Film Institute of India-Pune, expressed his delight, emphasizing the recognition this brings to independent filmmakers. • Out of 700-800 submissions, only ten films were selected for the ACID Cannes program, with seven of them originating from France.
UoH and NIN Scientists Investigate Obesity-Linked Kidney Ailment	**Context:** • Research led by scientists from the **University of Hyderabad and ICMR-National Institute of Nutrition (NIN) has delved into the patho-biology of kidney ailments linked to obesity.** **Why It Matters:** Obesity, a global epidemic, leads to various health complications, including kidney injury marked by 'proteinuria'—an increase in protein levels in urine, indicating potential kidney disease. **Key Findings:** • **Obesity rates are soaring worldwide, along with cardiovascular and metabolic diseases.** • Obesity is a major risk factor for **Chronic Kidney Disease (CKD),** yet the exact mechanisms linking obesity and CKD are not fully understood. • Research led by UoH's Associate Professor Anil Kumar Pasupulati and NIN's scientist G. Bhanuprakash Reddy has **explored the patho-biology of obesity-induced kidney ailments.** • They studied obesity-related proteinuria using the **'Wistar NIN-Obese rat model' and high-fat diet-fed mice.** • The research compared kidney function, micro-anatomy, and morphology in these models and analyzed **gene expression in rodents and humans using databases like 'Nephroseq' and 'Kidney Precision Medicine Project.'** • They found severe **proteinuria and podocyte injury in obese rodent models, with up-regulation of the WT1 transcription factor, critical for kidney development in embryos but minimally expressed in adults.** • Reactivation of WT1 in obese models might contribute to nephron cell damage and proteinuria, as observed in patients with chronic kidney disease. Next Steps: • The scientists aim to find ways to **reduce WT1 in obese individuals to prevent kidney injury and control proteinuria.** • Funding for the study was provided by the Science and Engineering Research Board (SERB).

Delay in Installation of Rooftop Solar Panels for Government Schools	**Context:** • In an effort to make **government schools more efficient and reduce electricity costs, the State government planned to install solar energy projects in approximately 1,521 schools.** • The installation of rooftop solar panels on government school buildings is facing delays. **Key points:** • In **2022,** the State government announced plans to **install rooftop solar panels on 1,521 school buildings in 12 districts under the 'Mana Ooru-Mana Badi' program.** • The School Education department sanctioned the installation of grid solar electrical power connections in various types of schools, **including Zilla Parishad High Schools (ZPHS), Mandal Parishad Primary Schools (MPPS), Telangana State Model Schools (TSMS), and Kasturba Gandhi Balika Vidyalayas (KGBVs).** • The total expenditure of **Rs. 289.25 crore will be covered by funds under the National Bank for Agriculture and Rural Development (NABARD) Rural Infrastructure Development Fund (RIDF).** • Schools will be equipped with **2 KW, 5 KW, and 10 KW** solar power generating panels based on their enrollment. • Excess solar energy generated by schools can be transferred back to the grid via net metering, allowing schools to earn revenue and reinvest it for effective schooling. • Installing solar panels will help schools run on **eco-friendly energy and reduce electricity bills, as solar energy is stable and relatively economical.** • Educational institutions with an enrollment of over 200 students have been selected for the project. • Out of the 1,521 institutions on the list, 916 are under the Southern Power Distribution Company Limited, and 605 are under the Northern Power Distribution Company Limited. • The solar panels in 1,521 schools across 12 districts are expected to generate a total of 3,072 KW of power. • **Mahabubnagar has the highest number of schools at 283 that will be electrified using solar power, followed by 145 schools in Nizamabad and 141 in Ranga Reddy district.**
Sitarama Irrigation Project	**Context:** • Agriculture Minister Tummala Nageswara Rao announced the completion of major works at the Sitarama Project. • Efforts are underway to operationalize the project promptly.

	About: • The **Sita Rama Lift Irrigation Project intends to redirect water from the Godavari River to irrigate approximately 2.72 lakh hectares of land across Bhadradri Kothagudem, Khammam, and Mahabubabad districts in Telangana.** • **Project Location:** Telangana, India • **Target Area:** Bhadradri Kothagudem, Khammam, and Mahabubabad districts • **Source of Water:** Godavari River • **Purpose:** Irrigation of 2.72 lakh hectares of land • **Method:** Diversion of water through a head regulator constructed at Dummugudem Anicut on the Godavari River • **Canal Length**: Approximately 372 km • **Additional Benefits:** Water supply to tanks, villages, towns, and support to existing/proposed irrigation schemes.