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# INDIA SCIENCE AND INNOVATION WEEKLY

*Ask the right questions, and nature will open the door to her secrets.*

*- Dr. C.V. Raman, The Nobel Prize in Physics 1930*

## INCOIS sheds light on warm temperature in Andaman Sea

Study conducted by Indian National Centre for Ocean Information Services, Hyderabad (INCOIS) found that deep waters (below 1,200 meter) in the Andaman Sea are warmer (about 2 degree celsius) than that of the Bay of Bengal due to internal tide energy dissipation and associated vertical mixing. The study suggests that the amplitude of internal tides could be larger in Andaman Sea, therefore long-term modelling of physical, chemical and biological properties will be crucial.

## Researchers on new ways to help plants fight viruses better

A team of researchers at the Epigenetics Lab at Bengaluru-based National Centre for Biological Sciences (NCBS) have shed light on the way the Geminiviridae family of viruses suppresses the defence responses of plants by causing a condition called vein-clearing symptoms. The scientist have isolated and cloned the disease-causing virus named Synedrella Yellow Vein Clearing Virus and have further isolated its protein named  $\beta$ C1 from this virus thus making way to develop virus-resistant tools in plants.

## CSIR Scientist receives award for study on malaria

Dr. Satish Mishra, a principal scientist at Division of Molecular Parasitology and Immunology, CSIR – Central Drug Research Institute (CDRI) has been awarded the Dr. Tuldi Das Chugh Award for his research work on Malaria parasite's life cycle which is a complex process involving two hosts and three invasive stages. Dr. Mishra's work was focussed on a specific protein that is essential for multiplication of malaria parasite in RBCs.

## SCTIMST to launch mini device to detect oral cancer

Sree Chitra Tirunal Institute for Medical Sciences and Technology in Thiruvananthapuram, will launch a hand-held imaging device, called OralScan, for screening, detection, and biopsy guidance of early stages of oral cancer. This Make in India initiative will avoid false-negative reports and will be a one-time investment for hospitals and laboratories.

## More power to women scientists, researchers

The Department of Science and Technology, Government of India has launched two unique schemes for women scientists, researchers in science and engineering. The schemes are SERB – POWER Fellowship and SERB – POWER Research Grants. These schemes are aimed to promote women researchers in regular service in academic and research institutions to take up Research and Development (R&D) at the highest level through these two categories of research support. The SERB-Power Fellowship offers a personal fellowship and a research grant to top performing women researchers for a period of three years, while the SERB – Power Research Grants ensure funding to undertake highly impactful research across all disciplines of Science & Technology. The SERB – Power Fellowship will be given to women researchers in the age group of 35-55 years. The fellowship will be of Rs 15,000 per month in addition to regular income, while the research grant will be of Rs 10 lakh per annum for a period of three years. Under the SERB – Power Research Grants, women researchers will be funded under two categories. The first category includes women scientists from IITs, IISERs, IISc, NITs, central universities, and national labs of the Central government institutions. They will be eligible for funding up to Rs 60 lakhs for three years. Level two will comprise scientists and researchers from state universities/ colleges and private academics. They will be eligible for funding up to 30 lakhs for three years.

## India to have its own 'Footwear Sizing System'

The Central Leather Research Institute of India (CLRI) has taken it up to conduct a pan India foot survey to evolve indigenous 'Footwear Sizing System', post due evaluation and analysis of the survey-data. To conduct the survey the sample sizes for measurement are first determined and the places of measurement would be selected based on geographical, ethnic, social and biological variables. Two lakh feet measurements would be taken from across the country which would mean that CLRI would be carrying out a total of 40,000 measurements in each of the following groups; children, girls, boys, women and men. For foot measurement, "3D Digital Imaging" technique would be used which comprises of a 3-Dimensional foot scanner that scans the foot form and the anatomical landmark points and measures automatically over 20 feet measurement parameters through an optical laser scanning system. The scan data is captured as cloud point data and can be saved and exported to various file formats for further statistical investigations.

## Special Update: Indian Institute of Integrative Medicine, Jammu

The Laboratory was established in 1941 as a research and production centre, known as Drug Research Laboratory of J&K State and was later taken over by Council of Scientific & Industrial Research of Govt. of India in December 1957 as Regional Research Laboratory, Jammu. In view of its core strength in natural products based drug discovery, the mandate of Institute was redefined in 2007 and its name changed to Indian Institute of Integrative Medicine (IIIM).

The vision of the Institute is to position IIIM as an International center of excellence for natural products chemistry, chemical biology, pharmacology and biotechnology to discover new chemical entities (NCEs) as drugs for unmet medical needs and provide scientific rationale and validity to various Indian systems of medicine. The Institute aspires to achieve leadership position as a research Institute for creating a broad knowledge base, a work force of dedicated and trained scientists and a technology development center through scientific exploration of secondary metabolites from plants and microbial biodiversity, at the same time generating awareness for their conservation and protection.

Further details can be found at: <http://www.aiihph.gov.in/>