

CSIR in Media



A Daily News Bulletin
21st December 2016

Now, convert your plastic waste into floor tiles

Lab Covered: CSIR-NPL

21st December 2016

In a development that would reduce environmental pollution, the Council for Scientific and Industrial Research (CSIR) has come up with a unique technology to make floor and pavement tiles from plastic waste.

Developed as part of the fast-track translational project, CSIR's New Delhi-based National Physical Laboratory (NPL) is engaged in recycling the plastic waste into tiles and designing suitable structure where these can be fixed. The laboratory has also developed a suitable chemical composition that is to be incorporated in the waste plastic matrix before molding into a tile.

According to the Ministry of Environment and Forests, over 15,000 tonnes of plastic waste is generated every day in the country. Out of this, nearly 9,000 tonnes is collected and processed, but the remaining 6,000 tonnes of plastic ends up in the open, causing heavy environmental and ecological damage.

Under the process to convert plastic into tiles, the waste is collected and segregated and then shredded into small pieces. This is then treated chemically and mixed with fillers and then molded into tiles of the desired dimensions. These tiles can also be used for making different structures and applications like separation panels, interlocking tiles and in showcase frames.

As a further step, NPL has also introduced the concept of “Smart Toilets” made of waste plastic bags. It has put up an entire structure using waste plastic bags and bottles, according to a CSIR bulletin.

Published in:

The Tribune

Source: bit.ly/2htKSZh

Huge 'dead zone' found in Bay of Bengal

Lab Covered: CSIR-NIO

19th December 2016

The Bay of Bengal hosts a 'dead zone' of an estimated 60,000 square kilometres - an area that contains little or no oxygen and supports microbial processes that remove vast amounts of nitrogen from the ocean, scientists including those from India have found.

Dead zones are well known off the western coasts of North and South America, off the coast of Namibia and off the west coast of India in the Arabian Sea.

"The Bay of Bengal has long stood as an enigma because standard techniques suggest no oxygen in the waters, but, despite this, there has been no indication of nitrogen loss as in other 'dead zones' of the global ocean," said Laura Bristow, a former postdoc at University of Southern Denmark.

Researchers, including those from the Council of Scientific and Industrial Research's National Institute of Oceanography (NIO) in Goa, demonstrated that some oxygen does exist in the Bay of Bengal waters, but at concentrations much less than standard techniques could detect and some 10,000 times less than that found in the air-saturated surface waters.

The researchers also discovered that the Bay of Bengal hosts microbial communities that can remove nitrogen, as in other well-known dead zones and even some evidence that they do remove nitrogen, but at really slow rates.

"We have this crazy situation in the Bay of Bengal where the microbes are poised and ready to remove lots more nitrogen than they do, but the trace amounts of oxygen keep them from doing so," said Bristow, now a scientist at the Max Planck Institute (MPI) in Germany.

"Remove the last amounts of oxygen, and the Bay of Bengal could become a major global player in nitrogen removal from the oceans," said Wajih Naqvi, former director of NIO and a co-author of the study published in the journal Nature Geosciences.

Removing more nitrogen from the oceans could affect the marine nitrogen balance and rates of marine productivity.

Globally, warming of the atmosphere through climate change is predicted to lead to an expansion of 'dead zones' in the ocean.

It is currently unclear whether climate change would lead to the removal of these last traces of oxygen from the Bay of Bengal waters.

However, the Bay of Bengal is also surrounded by a heavy population density, and expected increases in fertiliser input to the Bay may increase its productivity, contributing to oxygen depletion at depth.

"Time will tell, but the Bay of Bengal is at a 'tipping point', and we currently need models to illuminate how human activities will impact the nitrogen cycle in the Bay of Bengal, and also globally," said Bristow.

Published in:

Deccan Herald **Source: bit.ly/2ihTCSe**

Also Published in:

The Hindu

Source: bit.ly/2hffrG3

Jagran Josh

Source: bit.ly/2htHpKk

CSIO's quake-warning system bags two awards

Lab Covered: CSIR-CSIO

19th December 2016

The earthquake-warning system developed by the Central Scientific Instruments Organisation (CSIO) here to provide advance warning on seismic activities has bagged two national awards for innovation.

The awards are the Gold-Skoch Transformational Innovation Award — 2016 and the Skoch Order of Merit Award — 2016 for qualifying amongst top 100 projects in India. Conferred by a Gurgaon-based think tank dealing with socio-economic issues, Skoch awards are aimed at bringing scientific innovations and technologies that have been tested in laboratories and are ready for the market. This also includes innovations and technologies that have been commercialised but await proliferation. While prediction of an earthquake is not possible, the detection of seismic waves can provide early warning that can trigger safety mechanisms, which can help to minimise damage. Titled Earthquake Warning System for Regional Notification of Substantial Earthquake, the technology developed by the CSIO is the solution to activate the appropriate actions for safety.

The system is a smart framework consisting of a central control unit and geographically distributed seismic sensing nodes. It is the first-of-its-kind initiative in the country and has potential applications in the envisioned smart cities.

Published in:

The Tribune

Source: bit.ly/2htKFoP

Kids produce award winning documentary

CSIR

21st December 2016

Both the young filmmakers were given a trophy, certificate of merit and also a cash prize of Rs 1 lakh by Dr Harsh Vardhan, union minister for science & technology. Nearly 3,000 delegates were present at the occasion besides scientists and researchers.

A documentary titled as “Noori-The Light” made by two kids, Purtas Jalal, 13, and Zameen Jalal, 10 has won the best film award in category B at the International Science Film Festival- 2016, which was jointly organized by Department of Science & Technology, Department of Earth Sciences and CSIR.

Both the young filmmakers were given a trophy, certificate of merit and also a cash prize of Rs 1 lakh by Dr Harsh Vardhan, union minister for science & technology. Nearly 3,000 delegates were present at the occasion besides scientists and researchers.

‘Noori–The Light,’ was regarded as professionally brilliant film with in-depth research and direction besides effective narrative and cause and effect. Purtas and Zameem want to become scientists when they grow up and continue with their passion of making science.

Published in:

Hans India

Source: bit.ly/2hZ340I