

# Areca husk can be a good material for acoustics, says NITK study

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**Mangaluru:** Researchers at the National Institute of Technology Karnataka (NITK) Surathkal led by Prof P Jeyaraj from the department of mechanical engineering, have found that areca husk, an agricultural waste, can serve as an effective natural sound absorption material. It can be used to create sound absorption panels.

Jeyaraj said that sound absorption materials are used to control unwanted noise which distracts the audience in an auditorium or meeting hall. However, most of the materials being used for sound absorption, such as glass/rock wool, plastic and synthetic foams are toxic in nature, and have an impact on human health. Furthermore, disposal of these materials after their end-use, is a herculean task.

"To make acoustic panels more environment-friendly and bio-composite, a team



**INNOVATION:** National Institute of Technology, Surathkal

that included students and researchers from the institution started exploring areca husk, and the outcome was positive," said Jeyaraj, who along with his research students, were involved in the development of the sound-absorption panels made of natural fibre, areca husk and biocomposites.

The porosity associated with the natural fibre and the interaction of the fibre and sound waves makes them suitable for sound absorption applications. The research te-

am also demonstrated that sound absorption can be improved by using panels with complicated pore geometry, such as a series of spherical-shaped pores and non-circular ones, Jeyaraj said. They have also made 3D-printed prototypes of the acoustic materials in various forms. "This study has been published recently, and stresses that areca husk can be a good acoustic material. One can go for large-scale production after making modifications," said Jeyaraj.