

# IIT Indore develops UV protective device from herbal materials

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Indian Institute of Technology Indore has developed an indigenous technology for fabricating an electrochromic device that can protect from dangerous UV light, by taking an inspiration from nature.

The research activity was led by Dr Rajesh Kumar and PhD student Anjali Chaudhary and was assisted by Suchita, Tanushree, Devesh, Manushree and Chanchal.

"The main active component of the device is raw hibiscus flower extract which shows capabilities of switching between two coloured states, magenta and yellowish transparent, using a small voltage of 2V," said Kumar.



The device shows various colour under ultraviolet light to show yellow, green, blue and red colours. This is a first discovery of such an herbal electronic smart device.

"This research work has been pub-

lished in international journal "Solar Energy Materials and Solar Cells", which is the first demonstration of use of Herbal materials for such type of eco-friendly electronic device," said IIT Indore public rela-

tion officer Sunil Kumar.

The device uses daily usage hibiscus (or Gudhal) flower, a component used in red-tea, for developing the main component of this device.

The work, carried out on funding received from Science and Engineering Research Board (SERB), Govt of India, will have a long-term implication on developing novel materials for future smart buildings.

These devices, apart from being eco-friendly, are also economic and power saving. This work has been done in joint venture of interdisciplinary research centres of Rural Development Technology and Advanced Electronics at IIT Indore.

Rajesh Kumar and his team were awarded with this year's Best Technology award in this area by IIT Indore.