

Timeline

Cr David Bowe: Good things happening

12:46 PM AEST

Devonport Jazz ready to roll from next Thursday

12:44 PM AEST

Drug Court pioneer judges it's time to retire

12:38 PM AEST

Vehicle impounded in Lucknow

12:36 PM AEST

Lockdown Lifeline – Mental Health Support Package for NSW

12:36 PM AEST

Western Australia coronavirus update as at 14 July 2021

12:34 PM AEST

Most Queenslanders not prepared for bushfires, new figures reveal

12:32 PM AEST

Brisbane Festival 2021 to deliver top talent across city

12:28 PM AEST

NSW director disqualified from managing corporations for four years

12:28 PM AEST

Converting tamarind shells into an energy source for vehicles

12:26 PM AEST

10 Perth suburbs to record biggest improvement in sales volumes in 2020-21 financial year revealed

12:18 PM AEST

Critical three-year-old health promises still not delivered by Gutwein Government

12:17 PM AEST

Council seeks to establish Latrobe City Transition Taskforce

12:17 PM AEST

Labor must come clean

12:16 PM AEST

New route for Araluen Road is underway

12:16 PM AEST

Two men prosecuted for using false documents to obtain work

12:14 PM AEST

Science

14 JUL 2021 12:26 PM AEST

Converting tamarind shells into an energy source for vehicles

Shells of tamarind, a tropical fruit consumed worldwide, are discarded during food production. As they are bulky, tamarind shells take up a considerable amount of space in landfills where they are disposed as agricultural waste.

However, a team of international scientists led by Nanyang Technological University, Singapore (NTU Singapore) has found a way to deal with the problem. By processing the tamarind shells which are rich in carbon, the scientists converted the waste material into



carbon nanosheets, which are a key component of supercapacitors – energy storage devices used in automobiles, buses, electric vehicles, trams, and elevators.

The study reflects NTU's commitment to addressing humanity's grand challenges on sustainability as part of its 2025 strategic plan, which seeks to accelerate the translation of research discoveries into innovations that mitigate our impact on the environment.

The team, made up of researchers from NTU Singapore, the Western Norway University of Applied Sciences in Norway, and Alagappa University in India, believes that these nanosheets, when scaled up, could be an eco-friendly alternative to industrially produced counterparts, and cut down on waste at the same time.

The tamarind shell-derived nanosheets also showed good thermal stability and electric conductivity, making them promising options for energy storage.

The researchers hope to explore larger scale production of the carbon nanosheets with industry partners. They are also working on reducing the energy needed for the production process to make it more environmentally friendly, and are seeking to improve the electrochemical properties of the nanosheets.

[Public Release. This material comes from the originating organization and may be of a preliminary nature, edited for clarity, style and length. View in full [here](#).

[Why?](#)

Tags: Electric, electric vehicle, energy, energy storage, environment, Humanity, Impact, Innovation, Nanyang Technological University, Norway, production, research, Scientists, Singapore, sustainability, university

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