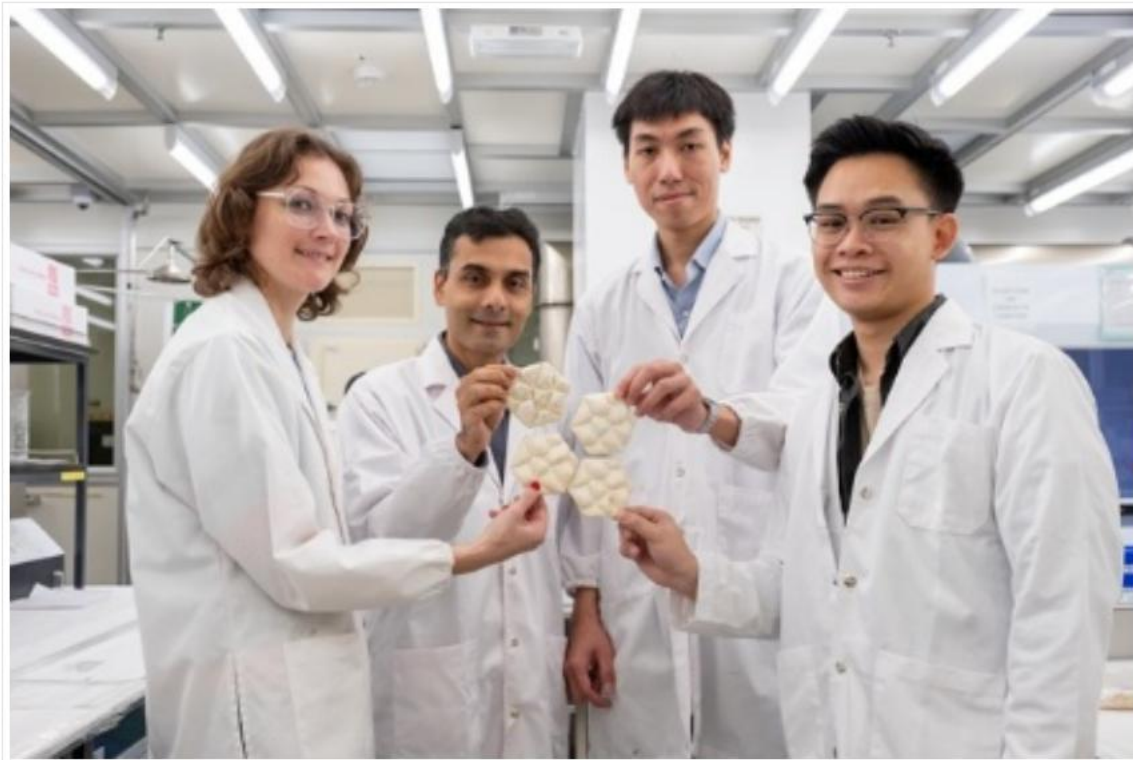




NTU Singapore scientists create ‘fungi tiles’ with elephant skin texture to cool buildings

Eco Voice | April 3, 2025 | [Reply](#)



NTU scientists, in collaboration with local ecology and biomimicry design firm **bioSEA**, have developed ‘fungi tiles’ that could help cool buildings down without consuming energy.

Proof-of-concept shows promise as a sustainable passive cooling solution

A team of scientists led by **Nanyang Technological University, Singapore (NTU Singapore)** have developed ‘fungi tiles’ that could one day help to bring the heat down in buildings without consuming energy.

These wall tiles are made from a new biomaterial combining fungi’s root network – called mycelium – and bamboo shavings collected from a furniture shop. Earlier research has shown that mycelium-bound composites are more energy efficient than conventional building insulation materials such as expanded vermiculite and lightweight expanded clay aggregate.

Building on this proven insulating property, the NTU Singapore team worked with local ecology and biomimicry design firm **bioSEA** to add a bumpy, wrinkly texture to the tile, mimicking an elephant’s ability to regulate heat from its skin. Elephants do not have sweat glands and rely on these wrinkles and crevices on their skin to regulate heat.

With the construction industry accounting for nearly 40 per cent of all energy-related emissions worldwide, the search for eco-friendly insulation materials is critical. Mycelium-bound composites could be a promising alternative, said the scientists.

More information – https://youtu.be/ikS_AcadwKY

<https://www.ecovoice.com.au/ntu-singapore-scientists-create-fungi-tiles-with-elephant-skin-texture-to-cool-buildings/>