



AS IT IS

South Korean Researchers Make Animal-Like 'Skin'

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South Korean researchers say they have developed a skin-like material that behaves like the skin of a **chameleon**. It can change colors to look like its surroundings.

The team was led by Ko Seung-hwan, a mechanical engineering professor at Seoul National University. The team created the skin with a special liquid that turns colors in different temperatures. These changes are controlled by **flexible** heaters made of very small wires.

If you are in a desert, and you wear forest-colored clothing, you can easily be seen, Ko told Reuters news agency. Changing colors and forms actively with your surroundings is central to the technology, Ko said.

The technology uses something called thermochromic liquid **crystal** and silver nanowire heaters. Thermochromic means heat causes the colors to change. Nanowires are just like normal electrical wires, but they are extremely small.

Ko and the team demonstrated this technology using a chameleon-shaped robot with color-seeking **sensors**. The skin tried to copy whatever colors the sensors "saw" around it.

In a video, the robot walked on red, blue and green floors. It immediately changed color to look like its surroundings.

Ko explained to Reuters how the material works. He said when the sensors find color information, they move that information to a very small processor. Then, the information goes to silver nanowire heaters.

When the heaters reach a **specified** temperature, the thermochromic liquid crystal changes its color, Ko said.

Though the skin is made of many **layers**, its total thickness is less than a hundred micrometers. In other words, it is thinner than a human hair. By adding more silver nanowire layers in simple shapes like lines or squares, the skin can create complex designs.

“The flexible skin can be developed as a wearable device and used for **fashion**,” Ko said. It can also be used in military clothing and to create designs on the outside of cars and buildings, he said.

The team’s research was published in the journal *Nature Communications* in August.

I’m Alice Bryant.

Reuters news agency reported this story. Alice Bryant adapted it for Learning English. Susan Shand was the editor.

Words in This Story

Chameleon – n. a type of lizard that can change the color of its skin to look like the colors that are around it

Flexible – adj. capable of bending or being bent

Crystal – n. a special type of glass that is very clear

Specify – adj. named or mentioned exactly and clearly

Sensor – n. a device that detects or senses heat, light, sound, motion, etc., and then reacts to it in a particular way

Layer – n. a covering piece of material or a part that lies over or under another

Fashion – n. a popular way of dressing during a particular time or among a particular group of people

