

THE COMFORT OF ROBOT HUGS

Hugs from humans are not the only kind that can make people healthy and happy! Robotist Alexis Block from Max Planck Institute for Intelligent Systems has invented HuggieBot, a humanoid robot that hugs.

Research shows that hugs can reduce stress and protect against illness. The goal is for HuggieBot to offer comfort to people separated by physical distance, such as in university residences and nursing homes. It could also be used in physical therapy and rehabilitation centers, or help benefit people with autism.

HuggieBot can detect an approaching person and offer a hug. Users can squeeze, rub and pat the robot's back, and the robot can detect and respond with these actions. People can receive customised hugs that have been sent to them from family and friends through the HuggieApp. Hug senders can include video messages, which will replace HuggieBot's animated face on its screen during the hug.

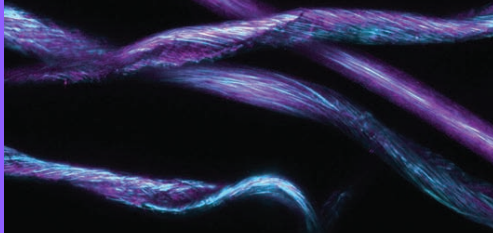
Here's a robot you could wrap your arms around in a time of physical distancing. People everywhere might enjoy the comfort of a robot hug!

- By Susan Hunnicutt



HuggieBot is a robot designed to give hugs

DoubleHelix



Each cotton fibre is a single cell. These tough cells can be more than three centimetres long!

COTTON'S FUTURE LOOKS BRIGHT (AND WRINKLE FREE)

It's natural, durable, comfy and unlikely to cause allergic reactions. As far as fabric goes, cotton has a lot going for it. Unfortunately that's not always enough to help it compete with synthetic fabrics, which are brighter, cheaper, and easy to wear without ironing.

Made from petrochemicals – products based on fossil fuels – synthetic materials aren't exactly environmentally friendly.

CSIRO scientists are working on a way to make cotton king again, by studying the cells that make up the fabric's tough fibres.

"We're looking into the structure of cotton cell walls and harnessing the latest tools in synthetic biology to develop the next-generation cotton fibre," says CSIRO scientist Dr Madeline Mitchell.

One way to make cotton more appealing would be to offer a broader range of colours based on natural pigments. Scientists already have cotton plant tissues producing dazzling yellows, radiant purples and warm golden-orange hues.

With further modification, cotton fibres might not only be coloured, but free of kinks. That means no more ironing required!

- By Mike McRae



DID YOU KNOW?

Cotton fruits are called bolls. Inside each boll is the fluffy white lint we call cotton, plus cotton seeds!



HAVE YOUR SAY AND WIN!

How are you enjoying *Double Helix* magazine? We've come up with some questions to find out how we can make our magazine even better. From future themes to design ideas, we can't wait to hear your thoughts!

If you complete the survey and live in Australia or New Zealand, you can enter a competition to win *Tobbie the Robot*. This is a robot kit to build yourself! It's a hexapod robot that can walk, spin and even flash its eyes.

WIN!

Have your say at:

www.surveymonkey.com/r/DHmag2020

Get your response in by 30 November 2020 to be in the running.



LEGO COULD SURVIVE 1300 YEARS IN THE OCEAN

If you've stepped on a LEGO block, you know how strong they are. Now scientists have worked out that it takes between 100 and 1300 years for the toys to break down in the ocean.

The researchers analysed about 50 LEGO pieces collected from beaches in England. They washed and weighed the blocks in the lab, and compared them with matching blocks from unweathered LEGO sets bought in the 1970s and 1980s. The team could work out how old each block was because the chemical recipe used to make LEGO has changed over time.

They found LEGO that had been in the ocean was smoother, had more cracks and was more faded than the originals. The blocks also suffered fouling – when marine life such as barnacles, algae and worms stick to the objects in the sea.

The ocean blocks weighed between three per cent and 40 per cent less than the unweathered blocks. This helped the scientists estimate how long it would take for the LEGO to disintegrate completely.

- By Michelle Wheeler

Beached LEGO shows these plastic toys can survive centuries underwater



DOUBLE HELIX NEWS: CORONAVIRUS COVERAGE

If you're looking for the very latest from *Double Helix*, including updates on coronavirus disease (COVID-19), check out our blog: blog.doublehelix.csiro.au