



**INTRUSIVE THOUGHTS: WHY WE THINK BAD THINGS**

# Science Focus

*How James Webb*  
**VISITS THE EDGE OF TIME**

*Inside the world's*  
**MOST EXTREME LABS**

*First image of the*  
**MILKY WAY'S BLACK HOLE**

# RISE OF THE MAMMALS

How our ancestors flourished in the face of an apocalypse



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### Ecology

3D-printed, terracotta coral reefs that could safeguard our oceans

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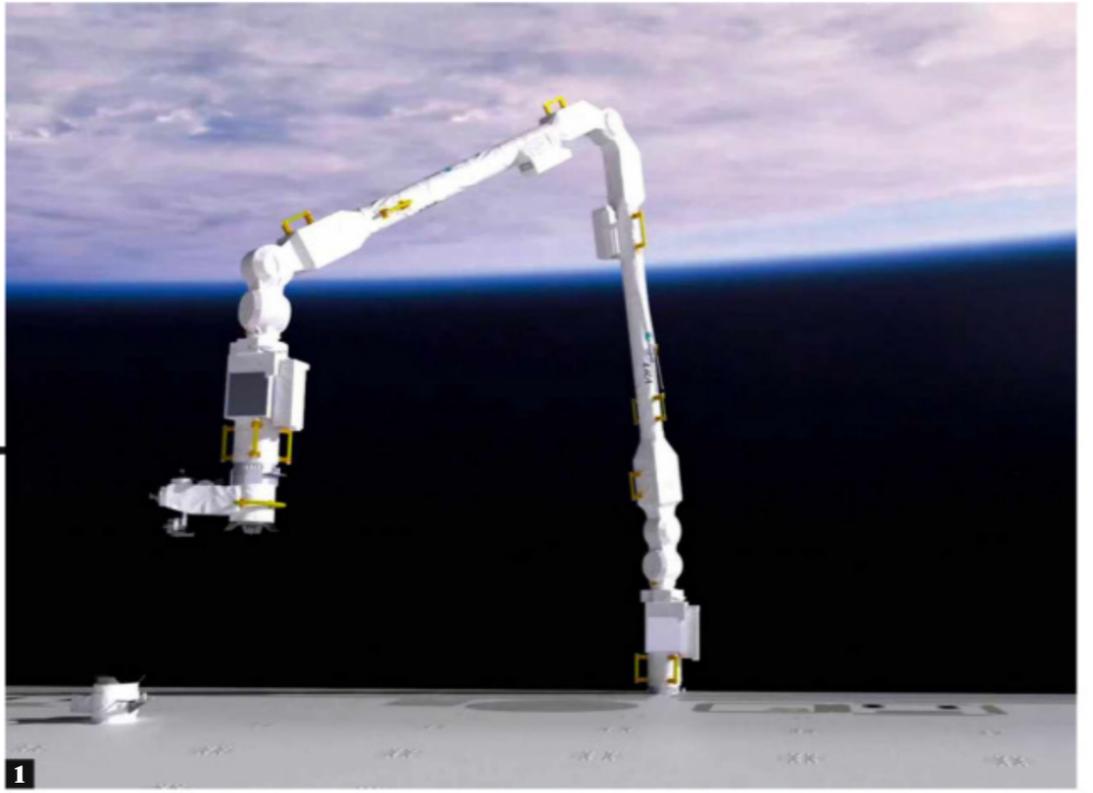
How psychedelics affect the brain

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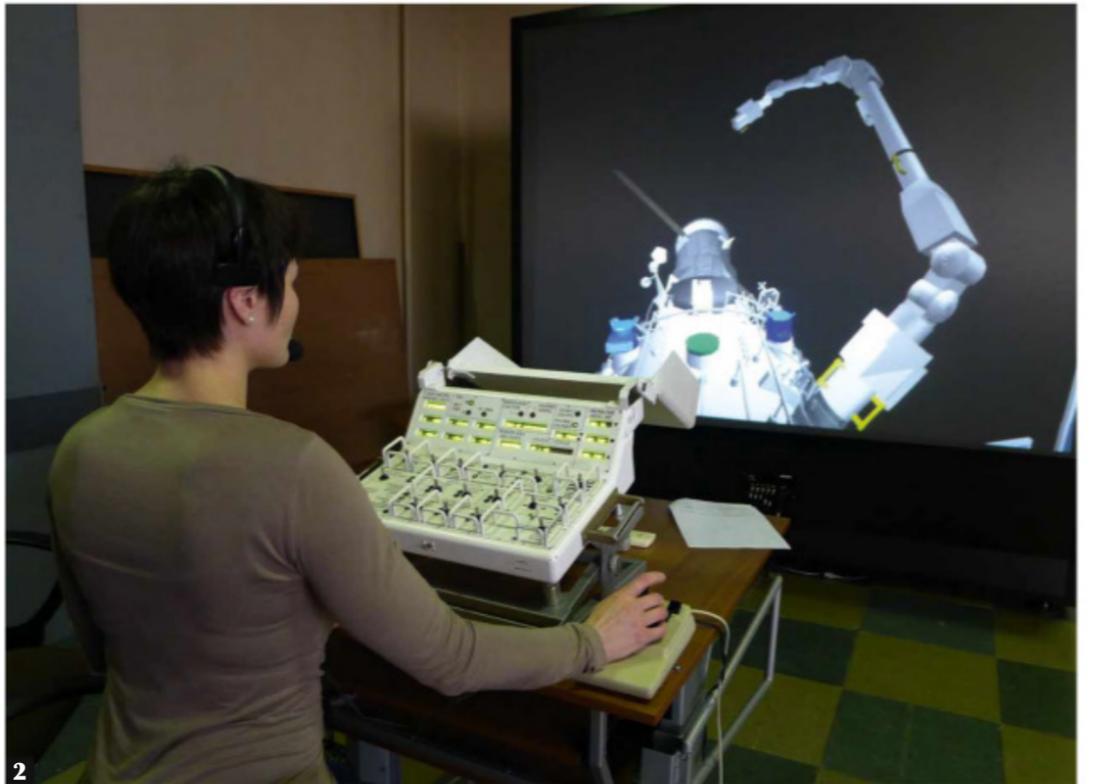
The VR headset built to help you meditate



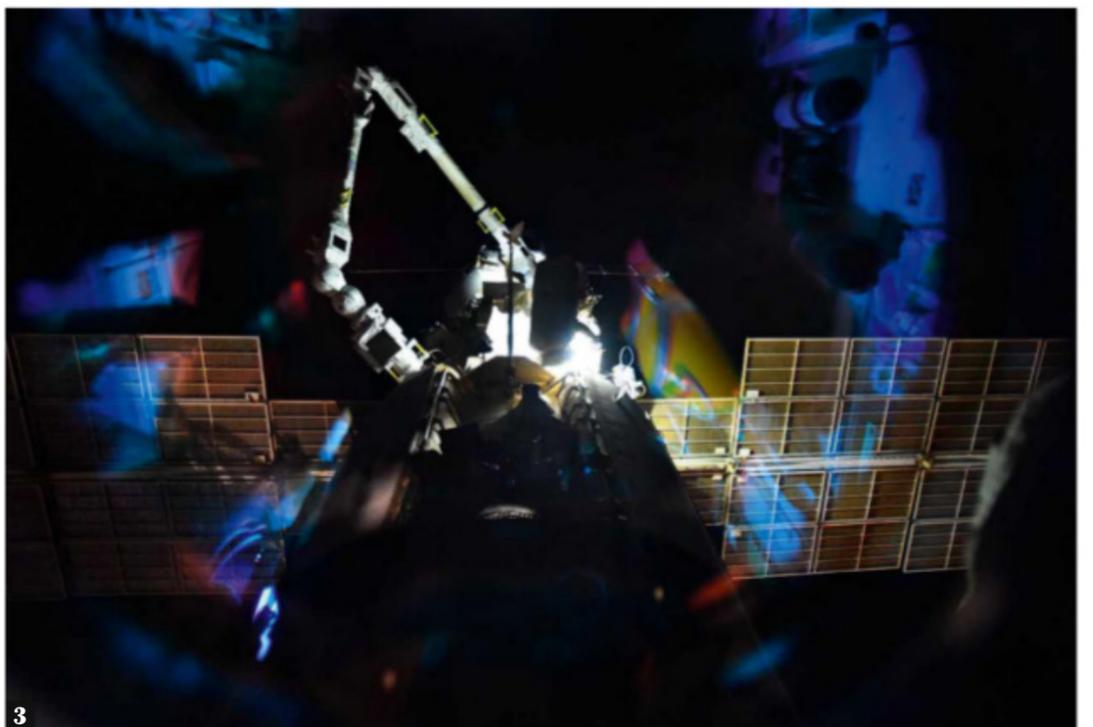
International Space Station



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## SPACE

## 'WALKING' ROBOTIC ARM POWERED UP ON INTERNATIONAL SPACE STATION

Russian cosmonauts activated the European Space Agency-designed bot during historic event that marked the 250th spacewalk carried out on the ISS

**O**n 28 April, Russian flight engineers Oleg Artemyev and Denis Matveev successfully switched on the European Robotic Arm (ERA) during a spacewalk lasting seven hours and 42 minutes. The robot has the ability to anchor itself to the exterior of the ISS and 'walk' backwards and forwards. It will be used for maintenance and transferring payloads, freeing up cosmonauts to carry out other work. It will begin its first mission in August.

**1.** The ERA is able to 'walk' around the ISS by gripping one of the fixed base points found on the space station's exterior with either of its 'hands', before moving its free hand to grab on to the next basepoint using its elbow and wrist joints.

**2.** The robot can be controlled and programmed remotely. This image shows ESA astronaut Samantha Cristoforetti practising operating the robotic arm on a computer

simulator at Moscow's Yuri Gagarin Cosmonaut Training Centre.

**3.** The arm is designed to transfer payloads in and out of the ISS and to inspect the exterior of the orbiting habitat using its four infrared cameras.

**4.** The 11-metre ERA weighs 630kg on Earth but can handle objects of up to 8,000kg in orbit. Each of its limbs are made from five-metre lengths of ultralight carbon fibre.

ESA X3, NASA/JSC

