

# IMAGES OF THE YEAR

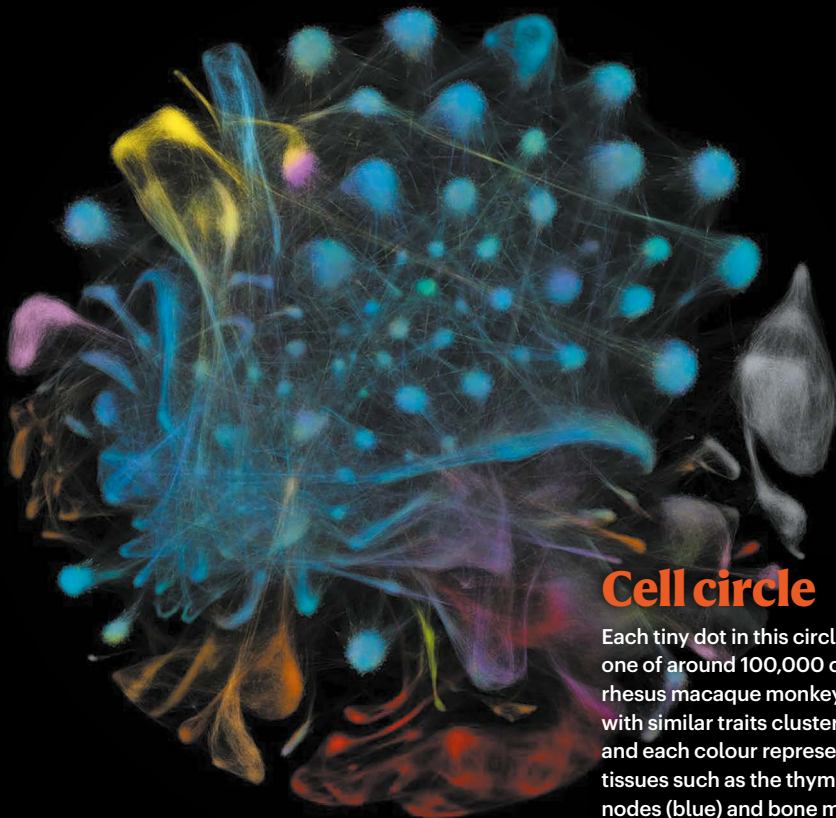
2019 will be remembered as the year humanity captured the first-ever image of a black hole. The year also brought fresh views of some of Earth's smallest living creatures and ominous signs of its changing climate. Here are the most striking shots from science and the natural world that caught the attention of *Nature's* news team.

Images selected by *Nature's* art editors  
Text by Nisha Gaiind and Ewen Callaway



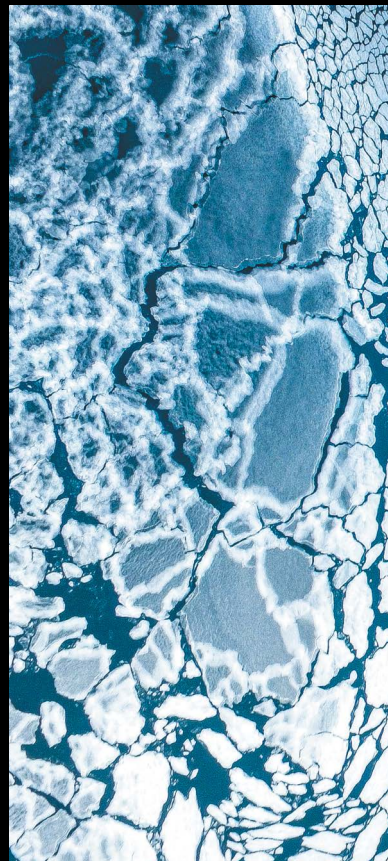
## Go with the flow

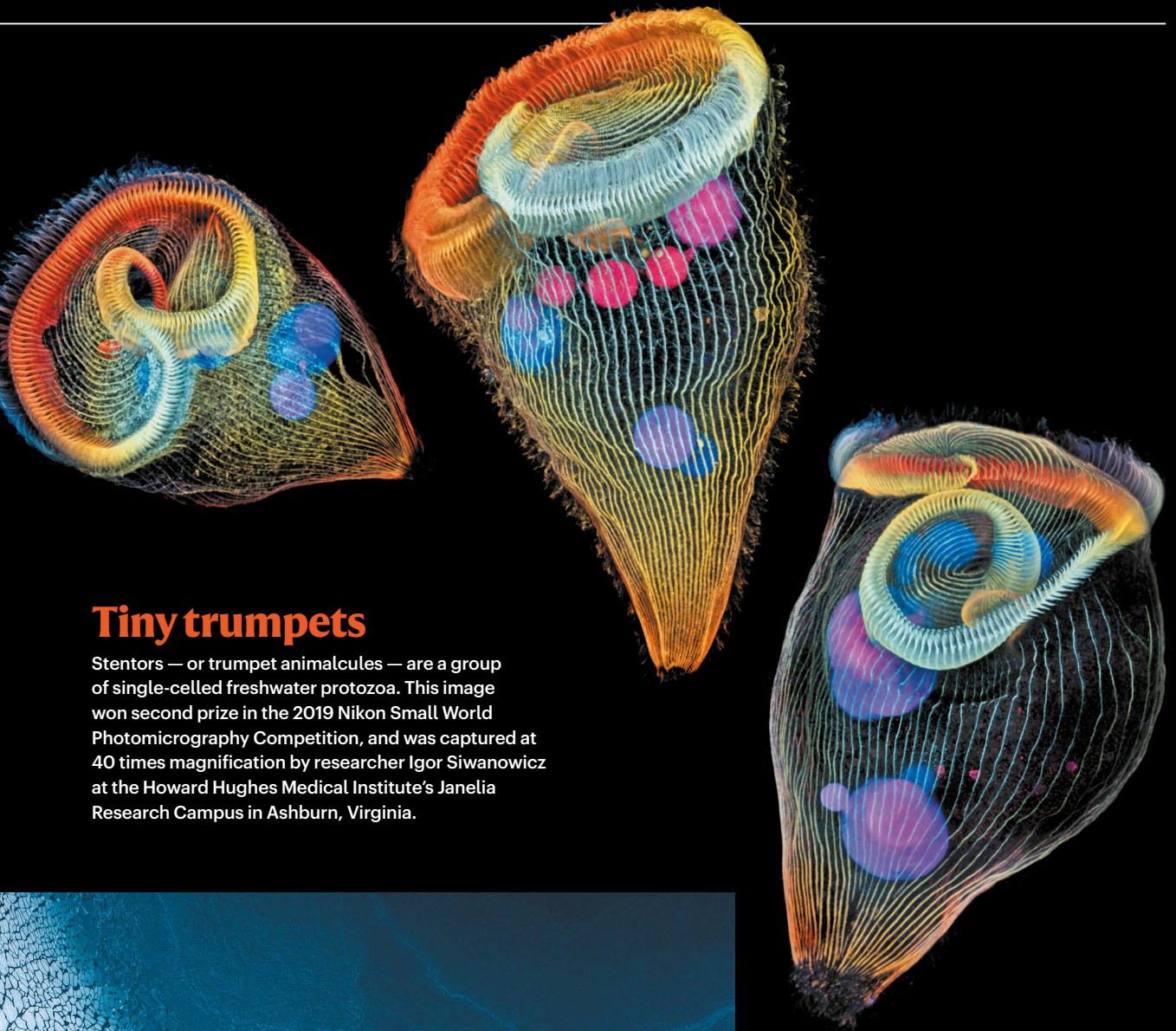
French researchers carved a labyrinth of microfluidic chambers in a silicon wafer to mimic blood flows in circulatory networks. Biophysicist Benoît Charlot at the University of Montpellier, France, captured this image using a scanning electron microscope.



## Cell circle

Each tiny dot in this circle represents one of around 100,000 cells from rhesus macaque monkeys. Cells with similar traits cluster together, and each colour represents different tissues such as the thymus and lymph nodes (blue) and bone marrow (red).





## Tiny trumpets

Stentors — or trumpet animalcules — are a group of single-celled freshwater protozoa. This image won second prize in the 2019 Nikon Small World Photomicrography Competition, and was captured at 40 times magnification by researcher Igor Siwanowicz at the Howard Hughes Medical Institute's Janelia Research Campus in Ashburn, Virginia.



## On thin ice

This aerial view of the sea ice in East Greenland was captured by photographer Florian Ledoux using a drone. Low levels of winter snow cover, heatwaves in the spring and a sunny summer all contributed to significant melting of Greenland's ice sheet in 2019.

## Hole horizon

The Event Horizon Telescope collaboration unveiled this first direct image of a black hole and its event horizon in April. The team used eight radio observatories to capture the ring of light around the void, which is at the centre of the galaxy Messier 87.

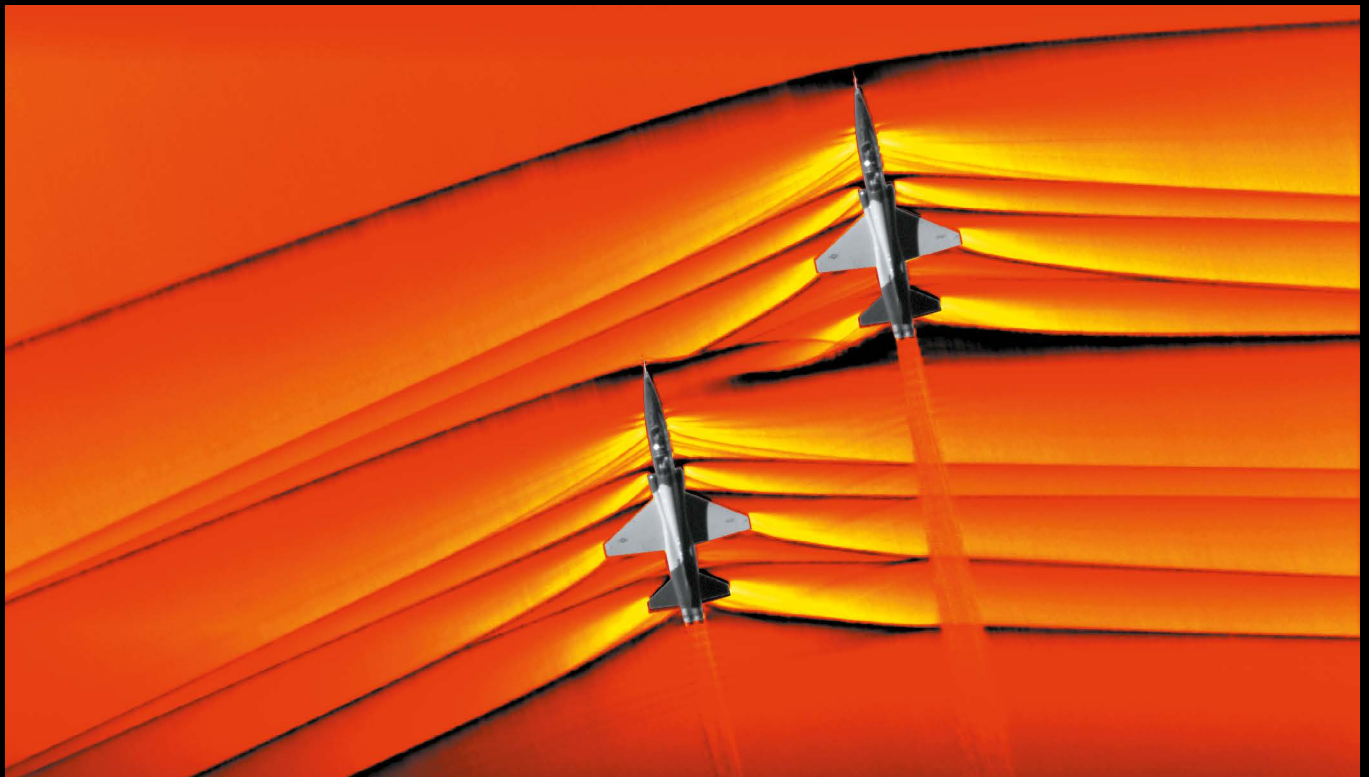


## Out of its shell

This fluorescent visualization of a turtle embryo was the winner of the 2019 Nikon Small World Photomicrography Competition. Microscopists Teresa Zgoda and Teresa Kugler stitched together and stacked hundreds of stereomicroscope images of the roughly 2.5-centimetre-long embryo.

## Friends reunited

Astronaut Christina Koch took this picture of the Soyuz spacecraft carrying her NASA colleague Jessica Meir as it approached the International Space Station (ISS). On 18 October, the pair performed history's first all-female spacewalk, to repair a faulty battery unit on the ISS.



## Good vibrations

This false-colour image shows shockwaves emanating from supersonic US T-38 Talon aircraft, and was captured by NASA staff using an experimental technique from an aeroplane above. It shows the rapid changes in air pressure that cause people to hear sonic booms. The data will help aeronautical engineers to design quieter supersonic planes.

BLACK HOLE: ETH COLLABORATION; BLOOD FLOW MIMIC: BENJIT CHARLOT/CNBS/IES UNIV.; MONTPELLIER/LABEX NUMEV; PROTOZOA TRUMPETS: IGOR SIWANOWICZ; CELL CIRCLE: CARLY ZIEGLER, ALEX SHALEK AND SHAINA CARROLL (MIT) AND LESLIE KEAN; VICTOR TRKACHEV AND LUCREZIA COLONNA (DANA-FARBER CANCER INSTITUTE); WELL-COME PHOTOGRAPHY PRIZE 2019: ICE SHEET: FLORIAN LEDOUX; TURTLE: TERESA ZGODA AND TERESA KUGLER; SOYUZ FROM ISS: CHRISTINA KOCH/NASA; SHOCKWAVE: NASA; ZIMBABWE ANTI-POACHING: BRENT STURTON/GETTY; BLEACHED ANEMONE: MORGAN BENNETT-SMITH; WHISKY DROPLET: STUART J. WILLIAMS.



## Brave one

Petronella Chigumbura is a member of the Akashinga, or 'brave ones', an all-female anti-poaching unit. They patrol Zimbabwe's Phundundu Wildlife Area in the Zambezi Valley, where elephant poaching is common.



## Anyone home?

A fish explores a bleached sea anemone in the Red Sea, off the coast of Saudi Arabia. Like corals, anemones form symbiotic relationships with algae that are disrupted when oceans get too warm, causing the anemone to expel the algae and become colourless.

## Wee dram

This web-like microstructure is made of fats left behind after researchers evaporated a 1-microlitre drop of diluted bourbon whisky. The fats dissolve in higher-strength spirits — but turn a drink cloudy when water is added.

