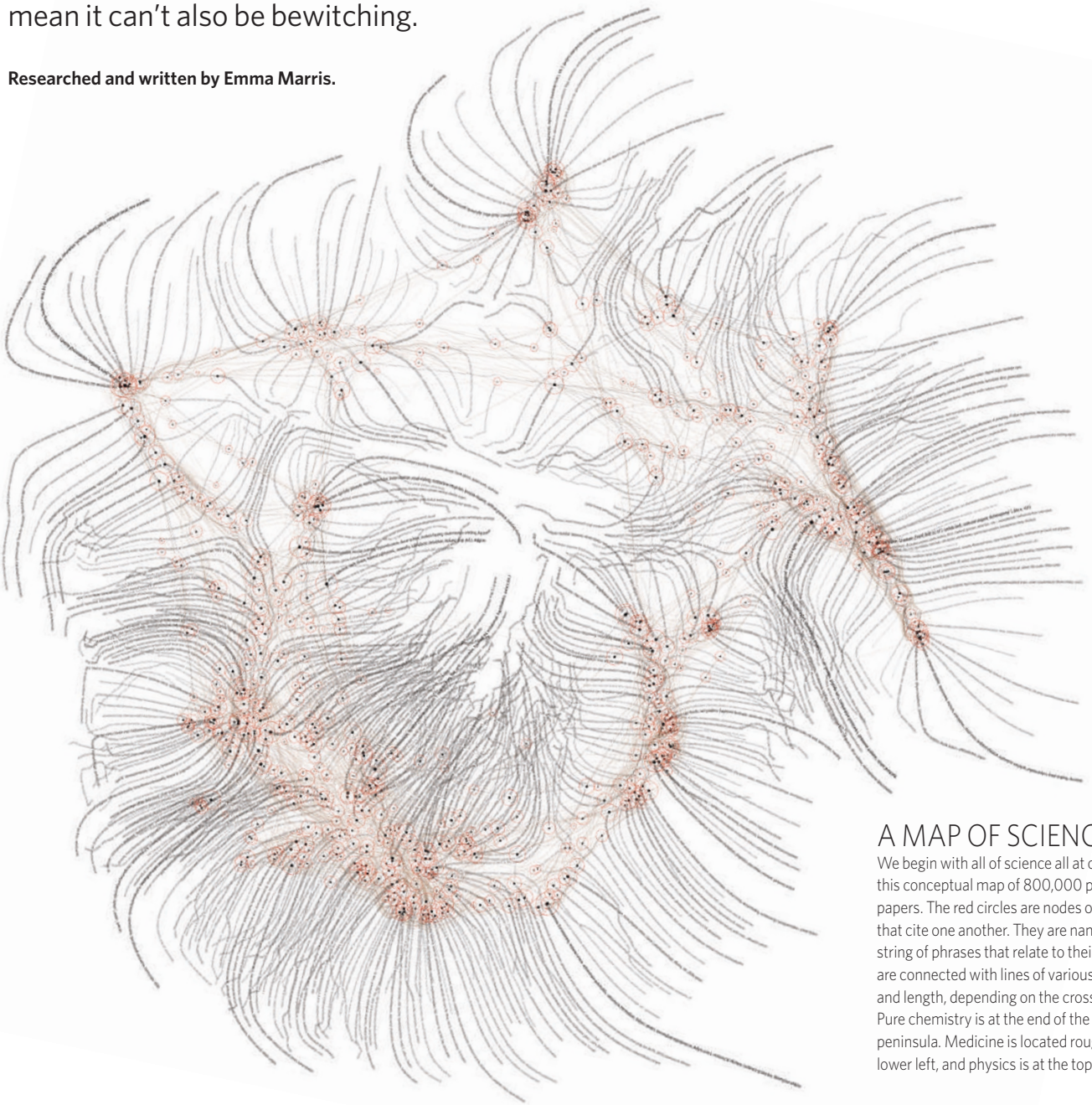
2006 GALLERY

BRILLIANT DISPLAY

From a jewel-like bird, rarer than any diamond, to the delicately poetic swirls generated inside aircraft engines, the pursuit of knowledge turns up its fair share of beauty. This issue, *Nature* wraps up the year with an arresting series of images from 2006. We've divided them into the art of the natural world, planet-scapes both domestic and extraterrestrial, and the splendour of modern technology. Just because something enhances our knowledge doesn't mean it can't also be bewitching.

Researched and written by Emma Marris.



K. BOYACK, D. KLAVANS, W. B. PALEY (DATA: THOMPSON ISI, COMMISSIONED: K. BORNER)

A MAP OF SCIENCE

We begin with all of science all at once, in this conceptual map of 800,000 published papers. The red circles are nodes of papers that cite one another. They are named with a string of phrases that relate to their fields, and are connected with lines of various heaviness and length, depending on the cross-linkages. Pure chemistry is at the end of the right-hand peninsula. Medicine is located roughly at the lower left, and physics is at the top.

YARIGUÍES BRUSH FINCH

Two or three new species of birds are found around the world every year, but not all are as spectacular as this Colombian specimen (*Atlapetes latinuchus yariguierum*), which was announced in June. The area in which it was found is now protected.

B. HUERTAS/AP

G. ALLEN/CI

WALKING SHARK

A Conservation International expedition in the Indonesian province of Papua recorded 50 new species. Among them was this ambling predator from the genus *Hemiscyllum*, which is just over a metre long and dines on crabs and shrimp while patrolling the sea floor on its fins.

K. RASKOFF/MONTEREY PENINSULA COLLEGE

JELLY ROCKET

This 30-centimetre-long siphonophore was captured under the ice in the Arctic Ocean. The spherical objects along its sides are propulsive 'swimming bells'. The bottom — which looks like flame from a rocket — is a mass of tentacles and reproductive organs. The water around it is about 1 °C. This translucent beast won a prize for photographer Kevin Raskoff this July in the BP Kongsberg Underwater Image Competition.

I. STEPHEN

VIRGIN BIRTH

This Komodo dragon was produced by a female kept clear of all males (see page 1021). Parthenogenesis is rare but not unknown in vertebrates, although to date it has mostly been seen in snakes.

MOSQUITO IN FLIGHT

Who knew such a pest — and such a killer — could be so beautiful? This *Anopheles stephensi* has just eaten lunch. It was snapped by Hugh Sturrock, who works on fungal pesticides at the University of Edinburgh, UK, and was one of the winners of this year's Wellcome Trust Biomedical Image awards.

H. STURROCK

SUMATRAN RHINO

This Borneo-based subspecies (*Dicerorhinus sumatrensis harrissoni*) was known about, but never photographed in the wild until June. If we're not careful, this may be our first and last glimpse. There could be as few as a dozen of these animals left.

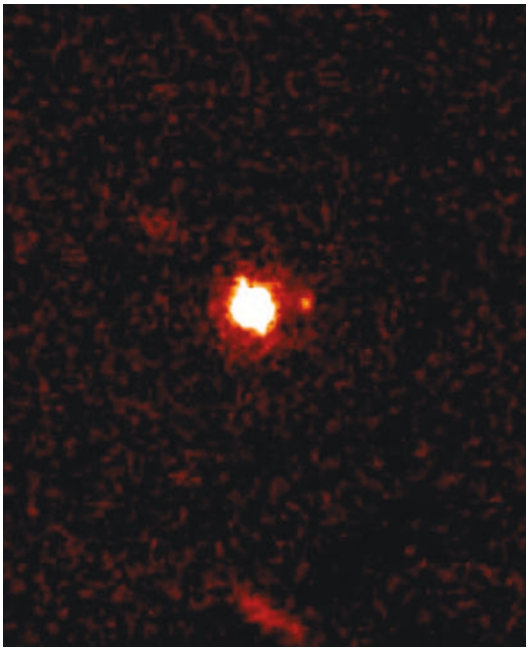
WWF-MALAYSIA

M. KOTTELAT/RAFFLES MUSEUM SINGAPORE

WORLD'S SMALLEST FISH... MAYBE

The gauntlets were off this year as *Nature*'s online news team stirred up a fight about which is the world's smallest fish. This species, *Paedocypris progenetica*, was identified in January making it the latest contender for the title.

W.M. KECK OBSERV.



THE TENTH PLANET... OR NOT

This body, now known as Eris, was found in 2004, but it was work on its size — it is larger than Pluto — in February that triggered the great planet debate of 2006. That ended in both Eris and Pluto being demoted to the category of 'dwarf planet'.

A MARTIAN LANDSCAPE

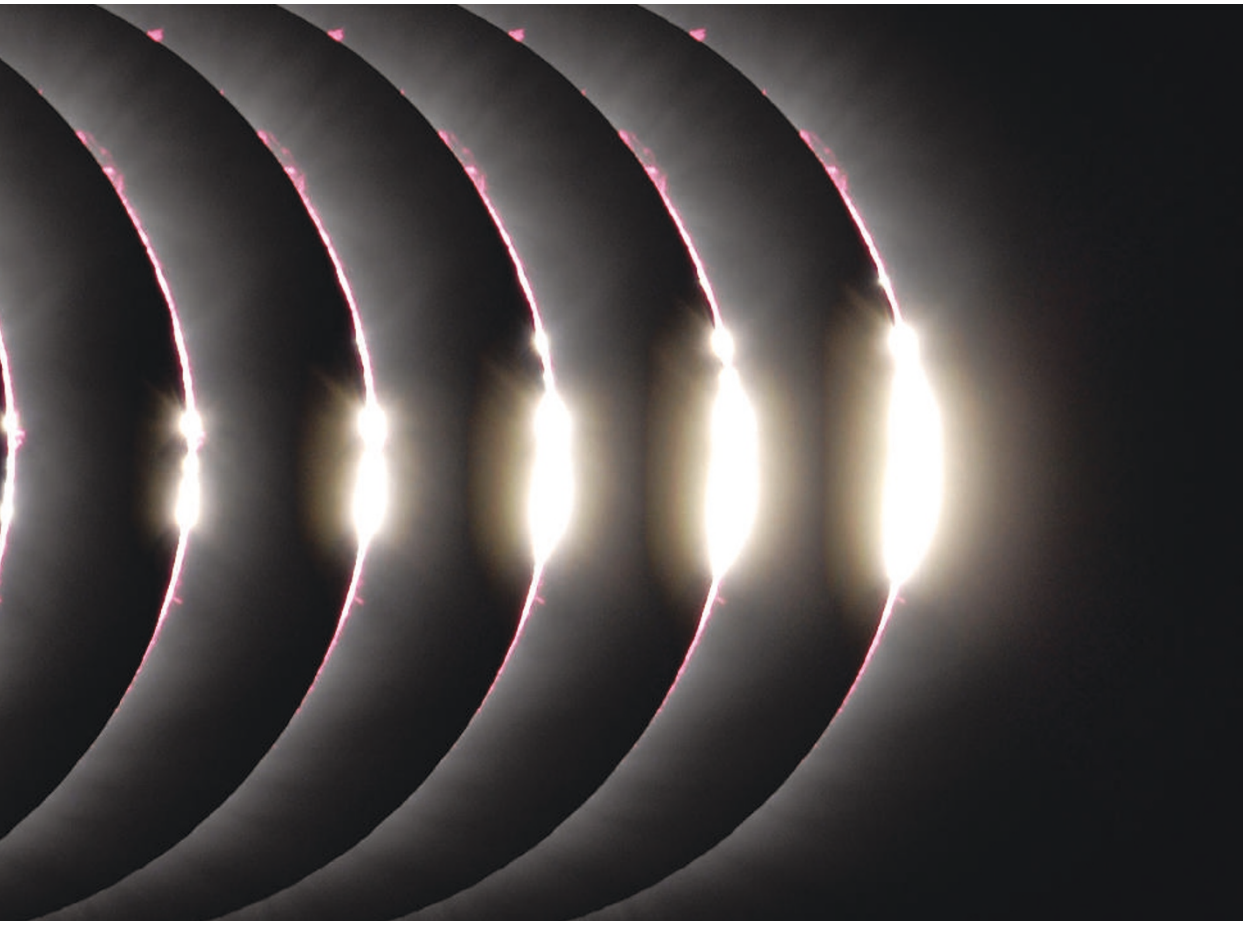
The Mars Reconnaissance Orbiter snapped this false-colour picture of the red planet's Victoria Crater. When this photo was taken on 3 October, the rover Opportunity was sitting on the edge of the kilometre-wide crater, although it can't be seen at this scale.

NASA/JPL/UNIV. ARIZONA

OUR EARTH, EVER MORE FAMILIAR

This is the quarter-of-a-millionth image from the International Space Station, taken on 15 August. The ever-increasing amount of information from space is changing the way we look at ourselves — and encouraging people to abandon the crumpled road maps in the their gloveboxes in favour of satellite navigation.

NASA



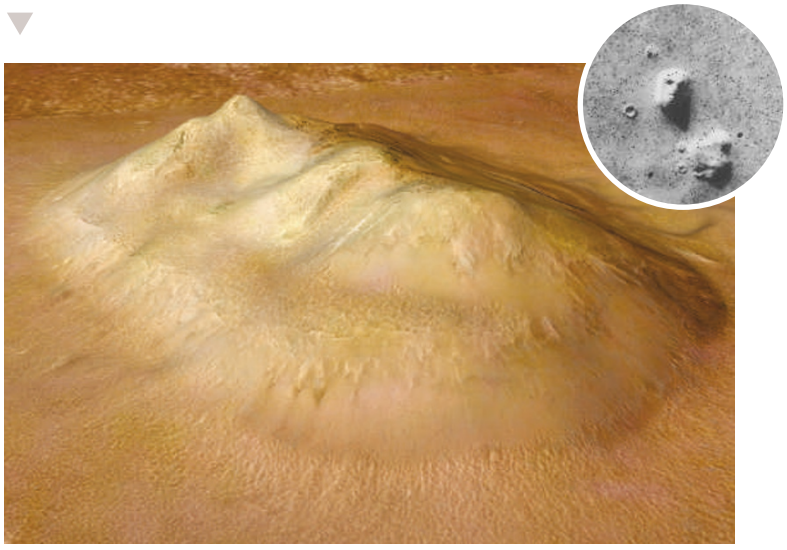
ECLIPSE 2006

A total solar eclipse is not that rare. But it still seems miraculous that the Sun could ever disappear, and images of the event have a unique power. This one was taken on 29 March by Fred Espenak in Libya.

F. ESPENAK, WWW.MRECLIPSE.COM

A FACE ON MARS NO MORE

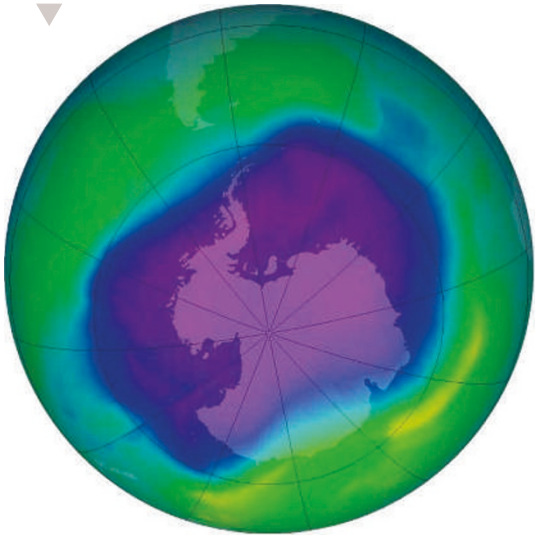
On 21 September, the Mars Express satellite took this image of a cluster of mountains that in a famous 1976 Viking photo (inset) looked eerily like a face. Human beings' innate tendency to see patterns may be at the heart of many scientific discoveries, but we also have it to thank for seeing faces in out-of-focus mountains and crouching leopards in the backyard shrubbery.



ESA/DLR/FU BERLIN (G. NEUKUM), MALIN SPACE SCIENCE SYSTEMS; INSET: NASA/JPL

THE OZONE HOLE IS BACK

The ozone hole is breaking records again. It was as large this September as it has ever been, at 27.5 million square kilometres, thanks to cold Antarctic temperatures. Long term, the hole is still shrinking, but year-on-year variability can mask this gradual process.

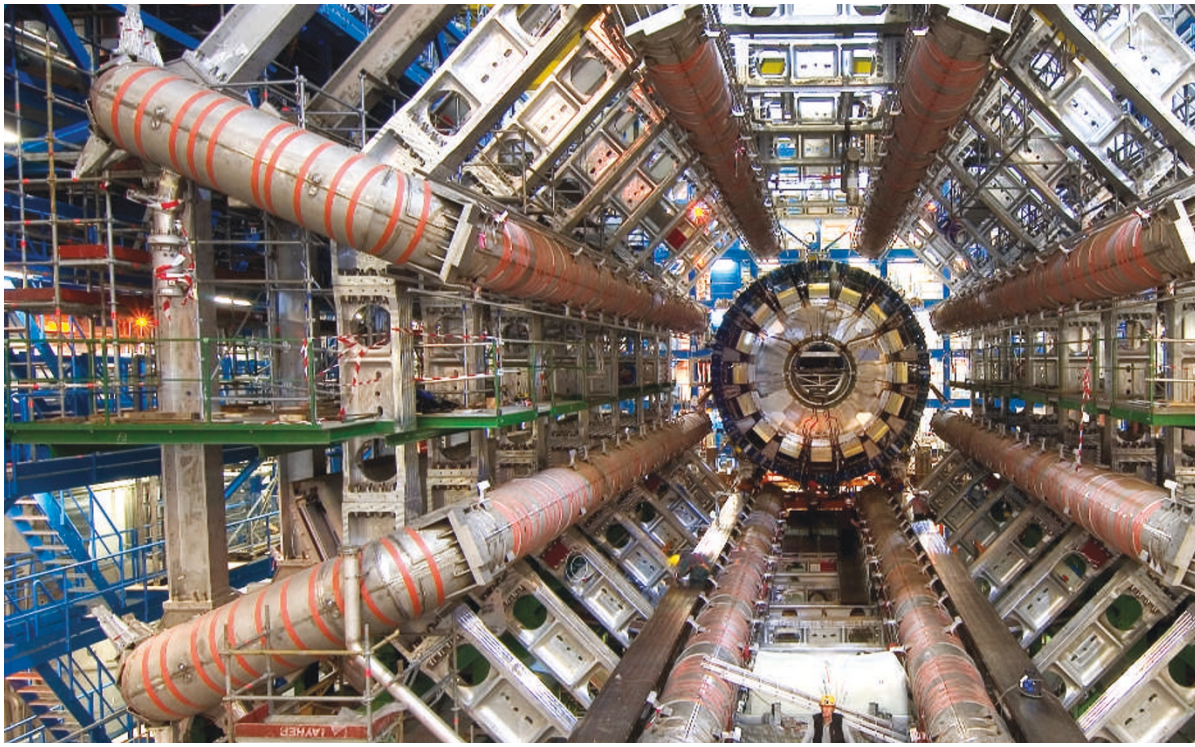


NASA

CERN

A CATHEDRAL OF DETECTORS

This is a view down the gullet of the ATLAS experiment at CERN, the particle-physics lab near Geneva. Over the course of this year it has slowly been filled up with all manner of detectors, and work will continue until it's ready to go live sometime in November 2007. Its constructors hope that results from the detectors will allow them to infer the presence of such exotic particles as the Higgs boson.



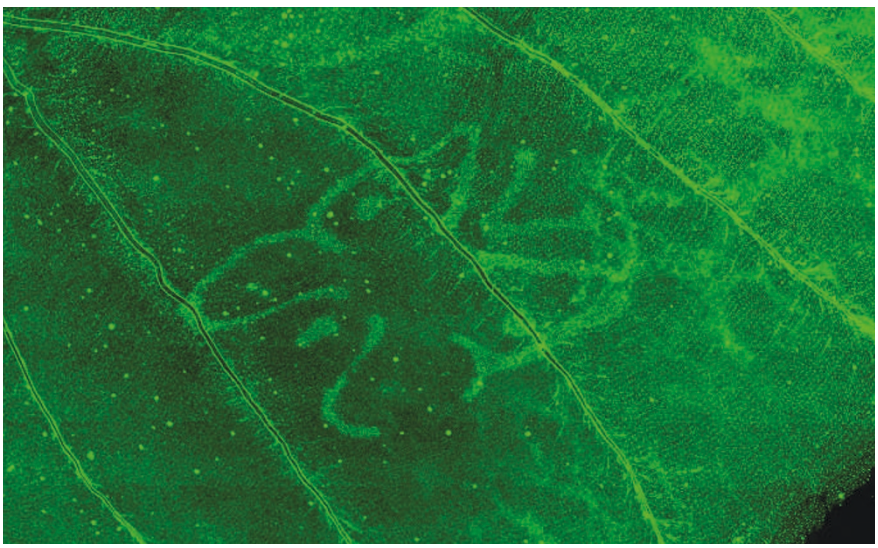
ONERA

THE ART IN YOUR ENGINE

A vortex of flame swirls inside a combustion chamber. Researchers at the French National Aerospace Research Center (ONERA) caught this shot while examining combustion inside an engine in minute detail. The aim was to make such motors more efficient, but the team has also shown the beauty of their inner workings.

A BUTTERFLY ON A BUTTERFLY

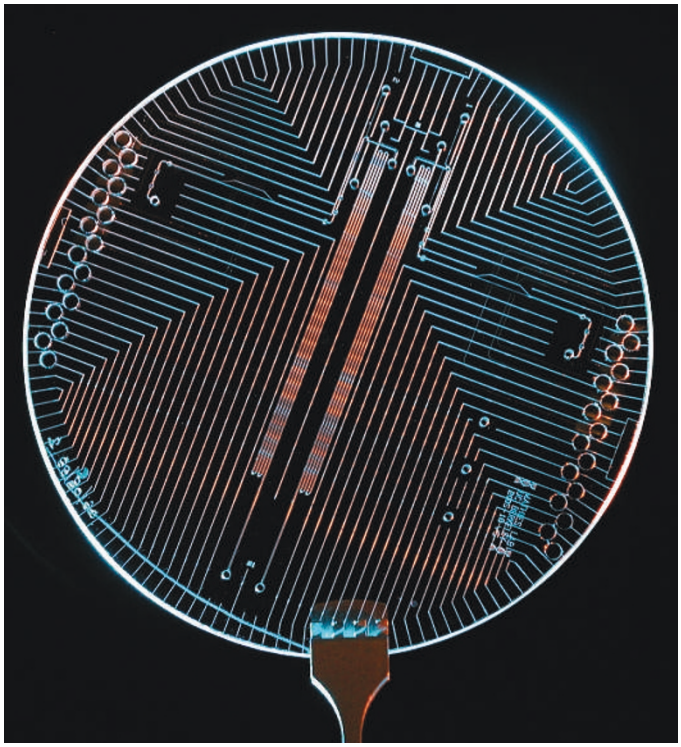
This butterfly, which appeared in November, is actually on a butterfly's wing. The insect was engineered so that its cells expressed a green fluorescent dye when a particular heat-sensitive protein was activated. A laser was then used to induce heat shock and etch out the pattern.



A. MONTEIRO/F. KAMAL/D. RAMOS/UNIV. BUFFALO

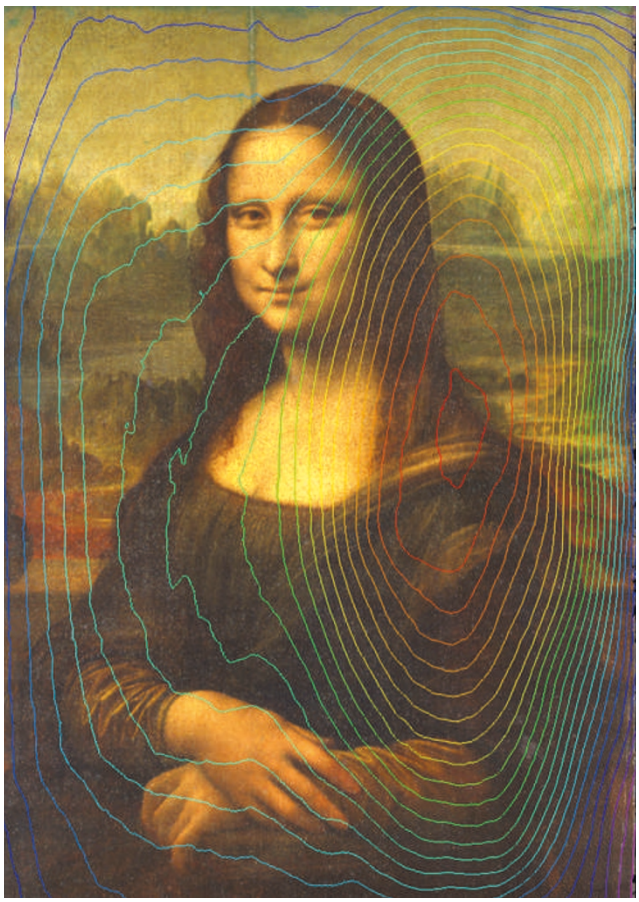
INTRICATE SEQUENCE

Ditch the pipette and do your DNA sequencing at the nanolitre scale with this stylish 100-mm wafer, created by Robert Blazej and his colleagues at the University of California, Berkeley, and unveiled in May. Form follows function in a design that could easily be from an album cover or the floor of a nightclub.



MATHIES LAB UNIV. CALIFORNIA, BERKELEY/*PROC. NATL ACAD. SCI. USA*

NATL RES. COUNCIL CANADA



ANATOMY OF A SMILE

In October 2004, the *Mona Lisa* was transported from her home in the Louvre to the Centre for Research and Restoration of the Museums of France in Paris for its first thorough scientific examination. Published in September, this three-dimensional laser scan of the painting's surface shows the slight warping of the wood on which Leonardo painted 500 years ago.

CLING FILM'S CHIC COUSIN

This nanofilm, made by Toyoki Kunitake and his colleagues at RIKEN in Hirosawa, Japan, is a network of organic polymers interlaced with a network of zirconia. Announced in June, the composition of this film makes it ultra-thin (35 nanometres thick), ultra-strong (it can hold 70,000 times its own weight) and ultra-flexible (it can be sucked into a hole 30,000 times smaller than itself).