



How to park on a comet

WE'RE there, now where do we put the spacecraft? The European Space Agency's Rosetta probe has been scanning comet 67P/Churyumov-Gerasimenko for sites where its Philae lander could touch down in November. The shortlist is now down to five.

"It's a good compromise," says Philae manager Stephan Ulamec.

The team has chosen three spots, labelled B, I and J, on the comet's "head", and two on the "body", A and C (see picture). The letters come from the original list of 10 sites and do not indicate order of preference. Light levels, visibility from Rosetta and surface conditions all influenced the selection, but no one site is perfect.

Each site covers 1 square kilometre, as navigational uncertainties mean it isn't possible to target a more precise

area. Site A, in the valley between the comet's head and body, would be interesting scientifically but might prove too challenging due to the complex gravitational pull from both sections. "There is no single nice big flat area," says Wright.

"It's a bit frightening because the terrains are all difficult," says Ulamec. The team will now scrutinise the sites using Rosetta's cameras, and make a final decision in September.

No spacecraft has ever landed on a comet, so there is much to look forward to. "The high-resolution images are just incredible," says team member Ian Wright of the Open University in Milton Keynes, UK. "As a human being I can say, wow, that would be an amazing place to have a look at."

High-tech hunt

WHO killed James Foley? Last week, militants from Islamic State, previously known as ISIS, released a clip of a masked man appearing to behead the American journalist.

"James Foley's killer is close to being identified, thanks in part to voice-recognition technology"

Scotland Yard and the FBI have teamed up to hunt down the man in the video. In an interview on CNN on Sunday, Peter Westmacott, the British ambassador to the US, said that the killer was close to being identified, thanks in part to voice-recognition technology. Software can be used to compare the resonance of someone's speech with other voices in a government database to provide a list of suspects.

But human experts will be needed to narrow down the list on the basis of features such as voice quality, rhythm, grammar choice and the way the assailant pronounces different consonants

and vowels, says freelance forensic voice-analyst Elizabeth McClelland. "It's not like a fingerprint," says McClelland. "It's more an art than a science." She thinks the man has an accent characteristic of London or south England, with quirks that indicate he has been educated in the UK and might speak a foreign language, such as Farsi.

The heavily edited video is being scoured for visual clues too. "It's like a jigsaw puzzle," says Stuart Ray, an imagery analyst at McKenzie Intelligence Services in London. "You need lots of different pieces to fall into place."

Let teens sleep in

IT'S NO snooze you lose. The American Academy of Pediatrics (AAP) has called for all US schools attended by children aged 10 to 18 to delay their opening times to 8.30 am or later. Currently, 85 per cent of schools start earlier.

The aim is to tackle widespread sleep deprivation by helping teens manage the puberty-linked shift in their body clocks. This turns them into "night owls" who go to bed and wake up 2 hours later than when they were younger.

Various studies have shown

the benefits of later starts. For example, a three-year study of 9000 students from eight high schools before and after the introduction of later starts found improved grades and a 65 per cent reduction in teen car accidents.

About 1000 schools in the US have independently made the switch. The AAP is the most influential organisation yet to call for a wholesale change across the entire nation. The demonstrated benefits also include improved teen health and mood, says Judith Owens, author of the AAP statement (*Pediatrics*, doi.org/vc2).



Can the big one be far behind?

Bay Area stress

IT WAS bad, and it might make things worse. The magnitude 6.0 northern California earthquake in the early hours of 24 August piled stress on to the Hayward fault, which is due for a major rupture.

Centred in Napa Valley, the quake injured at least 200 people and caused hundreds of millions of dollars in damage. Seismologists with the US Geological Survey (USGS) quickly modelled its effect