

VOAradiogram 58 (10/05/2014)

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Welcome to program 58 of VOA Radiogram from the Voice of America.

I'm Kim Andrew Elliott in Washington.

Here is the lineup for today's program:

1:29 Program preview (now)

2:42 Taking notes by hand, with image

7:25 2014 ITU data on Internet and mobile access, with image

11:59 Bacteria could hitchhike to Mars, with image

19:14 VOA Spanish: Microsoft in Miami, with logo

20:49 BBG marks World Press Freedom Day, with logo

25:28 Closing announcements

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<EOT>

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## Taking Notes By Hand Better for Comprehension

VOA News

May 06, 2014

Many college students have long abandoned taking class notes by hand in favor of typing on laptop or tablet computers. But scientists from Princeton University and the University of California say that method is less effective.

According to a study published in the journal Psychological Science, taking notes by hand is much better for long-term memory of conceptual information.

Computers may be distracting because they offer opportunities for quick exchanges of messages, checking sports results, browsing or even shopping.

Even without Internet access, though, scientists say computers may be harming academic performance.

Students who type notes tend to take down what the professor says verbatim, without thinking about what they are writing. Although these electronic notes contained more words, scientists say it leads to "mindless transcription."

Those taking notes long-hand need to process the information they hear so they can summarize it in fewer words.

In the study, students listened to a lecture, then took a test.

Those taking notes by typing were as good at recalling facts as students taking notes by hand, but they did significantly worse when they were asked conceptual questions.

Scientists acknowledge that students probably will not abandon their laptops and tablets in class, but suggest some of the available technologies for writing notes by hand on computer screens might be an efficient compromise.

<http://www.voanews.com/content/taking-notes-by-hand-better-for-comprehension/1908683.html>

<EOT>

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<EOT>

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## Number of Internet Users Worldwide Approaching 3 Billion

VOA News

May 06, 2014 3:03 PM

The number of Internet users worldwide continues to rise, according to the United Nations' telecommunications agency, which says there will be almost three billion users by the end of this year. Two-thirds of those users will be in developing countries.

In a statement released Monday, the International Telecommunication Union, or ITU, also says the number of mobile-cellular subscriptions will be even higher, reaching almost seven billion by the end of 2014.

At the same time, the number of fixed-telephone subscribers continues to fall, with the ITU predicting there will be 100 million fewer landlines this year than in 2009.

The developing world is pushing up the number of mobile-cellular subscriptions, mostly in the Asia-Pacific region; but, the ITU says the global growth rate of 2.6 percent indicates that the

cellular phone market may be reaching its peak.

The ITU predicts that by the end of this year, 44 percent of households worldwide will have Internet access. It says nearly one-third of households in developing nations will have an Internet connection, compared with 78 percent in the developed world.

The agency's statistics are considered to be the most reliable and impartial and are used by many government agencies and private companies.

<http://www.voanews.com/content/number-of-internet-users-worldwide-approaching-3-billion/1908968.html>

<EOT>

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Image: ITU chart of individuals using the Internet, 2005-2014...

<EOT>

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<EOT>

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Earth Bacteria Could Hitchhike to Mars

VOA News

May 05, 2014 4:59 PM

Forget little green Martians invading Earth. Scientists are now concerned bacteria from Earth may be hitching rides to Mars on

the many probes that have landed on the Red Planet.

According to NASA, the invading organisms "have the potential to contaminate other celestial bodies, making it difficult for scientists to determine whether a life form existed on another planet or was introduced there by explorers."

In order to reduce the potential of contamination, scientists say they need to better understand which kinds of organisms could survive the flight. Recent studies show that certain microbes are tougher than expected, with the ability to survive an interplanetary journey.

"If you are able to reduce the numbers to acceptable levels, a proxy for cleanliness, the assumption is that the life forms will not survive under harsh space condition," says Kasthuri J.

Venkateswaran, a researcher with the Biotechnology and Planetary Protection Group at NASA's Jet Propulsion Laboratory and a co-author of three papers on the topic in a statement.

NASA said spore-forming bacteria could present the greatest risk as they can "withstand certain sterilization procedures and may best be able to survive the harsh environments of outer space or planetary surfaces."

Spores from *Bacillus pumilus* SAFR-032 are proving to have the ability to resist the techniques to clean spacecraft, like ultraviolet radiation and peroxide treatment.

These spores, NASA said, were able to survive 30 minutes in a simulated Martian environment, whereas normal spores on Rt '30 seconds.

Another test was done in space when the spores were exposed to outer space for 18 months aboard the European Technology Exposure Facility (EuTEF), a test facility mounted outside the International Space Station.

"After testing exposure to the simulated Mars environment, we wanted to see what would happen in real space, and EuTEF gave us the chance," says Venkateswaran. "To our surprise, some of the spores survived for 18 months."

NASA said the surviving spores showed increased levels of proteins associated with UV radiation resistance, as well as higher resistance when "revived and re-exposed on Earth."

Another experiment showed that the spores of *Bacillus pumilus* SAFR-032 and another spore-forming bacteria, *Bacillus subtilis* 168 were also very tough. They were dried on pieces of spacecraft and subjected for 1.5 years to the vacuum of space as well as various types of extraterrestrial radiation and temperature changes on the EuTEF.

The spores were also exposed to a simulated Martian atmosphere on EuTEF.



NASA said most of the organisms didn't survive, but that when UV rays were filtered out and the samples kept in the dark, 50 percent or more of the spores survived.

That, NASA says, "makes it likely that spores could survive a trip on a spacecraft to Mars if they are sheltered against solar radiation, perhaps in a tiny pocket of the spacecraft surface or underneath a layer of other spores."

A final study put rock-colonizing cellular organisms in the EuTEF for 1.5 years, to test if living organisms might move from one planet to another on rocks, a process known as lithopanspermia.

In another finding, organisms from Earth that live in extreme conditions proved they might be able to survive the arduous journey through space. However, they weren't able to replicate exact conditions as such a journey would possibly last up to millions of years.

The research, scientists hope, will lead to methods of minimizing the risk of microbial hitch hikers. Furthermore, they would help identify the kind of microbes that could originate on Earth.

<http://www.voanews.com/content/microbes-prove-hearty-enough-for-interplanetary-travel/1908225.html>

<EOT>

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Image: Electron micrographs of Bacillus pumilus SAFR-032 spores  
on aluminum before and after exposure to space conditions....

<EOT>

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<EOT>

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This is VOA Radiogram from the Voice of America.

Next is a news item from VOA Spanish...

Microsoft abrirá centro en Miami

Voz de América - Redacción

05.05.2014

La empresa informática Microsoft anunció la apertura de un centro de innovación de última generación en Miami.

Microsoft, que cuenta con más de 100 centros de este tipo fuera del país, trabaja de la mano con las autoridades para abrir el centro a mediados de 2014.

Se espera que este centro ofrezca servicios relacionados con la tecnología a nuevas empresas locales, gobiernos, estudiantes y profesores.

<EOT>

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<EOT>

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Accurate, Reliable Journalism is More Essential than Ever Before,  
BBG Says in Marking World Press Freedom Day

Broadcasting Board of Governors press release

May 2, 2014

To commemorate World Press Freedom Day (May 3), reporters from around the globe, leaders of U.S. international media, and other staff of the Broadcasting Board of Governors today released an interactive presentation containing video testimonials that underscore the importance of press freedom.

BBG-supported news and information programs reach an estimated 206 million people each week in more than 100 countries where the media face significant restrictions.

"Our audiences rely on our journalists for timely and accurate coverage of events affecting them," said BBG Chairman Jeff Shell.

"And given the diminished state of media freedom today, our mission is more important than ever. I applaud the men and women of U.S. international media for speaking out on this occasion, and for their hard work every day."

In their testimonials, staff for the Voice of America, Radio Free

Europe/Radio Liberty, the Martí, Radio Free Asia and Middle East Broadcasting Networks speak from experience about the impact of media freedom, and the heads of the networks underscore the importance of safeguarding journalists and promoting freedom of information.

In a just-released report, the non-governmental organization Freedom House found that global press freedom has fallen to its lowest level in a decade. Their 2013 Press Freedom Rankings reveal that only one person in seven lives where the media are free. Despite positive developments in several countries, particularly in sub-Saharan Africa, Freedom House indicated declines in every region of the world, particularly in the Middle East, Ukraine and East Africa. The trend toward repression has included increased physical attacks on reporters, censorship and intimidation.

The BBG promotes media freedom through the unbiased news coverage of its networks, programs to combat censorship on the Internet, journalism training programs and partnerships with local affiliates. Information on threats that BBG journalists face and repressive tactics they encounter in countries that lack press freedom can be found at

<http://www.bbg.gov/broadcasters/threats-to-journalism/>

<http://www.bbg.gov/blog/2014/05/02/accurate-reliable-journalism-is-more-essential-than-ever-before-bbg-says-in-marking-world-press-freedom-day/>

<EOT>

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<EOT>

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Thanks to colleagues at the Edward R. Murrow shortwave  
transmitting station in North Carolina.

I'm Kim Elliott. Please join us for the next VOA Radiogram.

This is VOA, the Voice of America.

<EOT>

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<EOT>

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Thank you for decoding the modes on VOA Radiogram.