

# **Best of Last Week—A new way to see matter, brain changes when wearing police uniform and baby gender impact on mother**

February 13 2017, by Bob Yirka

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Princeton University researchers have drastically shrunk the equipment for producing terahertz -- important electromagnetic pulses lasting one millionth of a millionth of a second -- from a tabletop setup with lasers and mirrors to a pair of microchips small enough to fit on a fingertip (above). The simpler, cheaper generation of terahertz has potential for advances in medical imaging, communications and drug development. Credit: Frank Wojciechowski for the Office of Engineering Communications

(ScienceX)—It was a good week for technological advancements as a team of researchers with the University of Oulu in Finland announced that they had developed [a material that can turn sunlight, heat and movement into electricity—all at once](#). It is based on a mineral with a perovskite crystal structure. Also, a team with the Harvard John A. Paulson School of Engineering and Applied Sciences announced that they had developed [a long-lasting flow battery that could run for more than a decade with minimum upkeep](#)—the technology involves storing energy in organic molecules dissolved in neutral pH water. And a team at Princeton University announced that they developed [terahertz chips that offer a new way of seeing through matter](#)—using electromagnetic pulses that last just a millionth of a second.

It was a good week for space research as well, as a team at the University of Cambridge announced that they had found [a bridge of stars that connects two dwarf galaxies](#)—the two largest in the Milky Way, the Magellanic Clouds. The bridge spans approximately 43,000 light years. And [Curiosity rover sharpened the paradox of ancient Mars](#) by sending back data showing that the planet had too little carbon dioxide 3.5 billion years ago to allow for a greenhouse effect that could have allowed water to exist on the surface.

In other news, a combined team from the University of Wyoming, the University of Bern and the Swiss Federal Institute of Aquatic Science and Technology found evidence that appears to solve [a fish evolution mystery](#) in Lake Victoria in East Africa—hybridization between two distantly related cichlid species from the Upper Nile and Congo drainage systems. Also, a team at McMaster University found that [wearing a police uniform changes the way the brain processes info](#) and can impact how that person perceives others. Also, a combined team from Hebrew University of Jerusalem's Institute of Archaeology and Liberty University in Virginia announced that they had found [the 12th Dead Sea Scrolls cave](#) near the Dead Sea. And a team of researchers in the U.K.

found that [LED lighting could have a major impact on wildlife](#) because some organisms can be drawn to it.

And finally, if you are a woman and are either planning on getting pregnant or already are, you might want to take a look at a report by a team at Ohio State University's Wexner Medical Center—they found that [a baby's sex plays a role in pregnant women's immunity](#)—female fetuses produced more pro-inflammatory cytokines when exposed to bacteria in [pregnant women](#) suggesting that carrying a girl may offer more immunity against infections.

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