

Best of Last Week—Nail polish dryers damage DNA, why batteries self-discharge, fixing high blood pressure

January 23 2023, by Bob Yirka

Researchers at UC San Diego studied the UV light-emitting devices used to cure gel manicures, and found that the chronic use of these nail polish drying machines is damaging to human cells. Credit: David Baillot/ UC San Diego Jacobs School of Engineering

It was an interesting week for the study of human activities as a team at

the University of California San Diego announced that UV-emitting nail polish dryers [damage human DNA and cause mutations in cells](#)—used to cure gel manicures, the drying devices may also represent a public health concern. Also making headlines, a team with one member from Duke University and the rest with the Environmental Working Group, in Washington, D.C., found that eating one wild fish caught in a river or lake in the U.S. [was equivalent to drinking tainted water for a month](#). Forever chemicals called PFAS, they reported, were found in three quarters of all samples they collected from water sources across the U.S. And a pair of writers at The Conversation wondered why humans have [dominated the planet despite never evolving to cope with the cold](#)—in the end, they suggest our brains allowed us to adapt by developing tools, new ways to hunt and the development of clothes.

In technology news, a team with members from NASA's Jet Propulsion Laboratory, Northeastern University and the Air Force Research Laboratory developed [a system to allow multi-kilometer and sub-terahertz communications at extremely high frequency bands](#). And Michael Metzger, an assistant professor at Dalhousie University, discovered why [batteries in portable electronic devices self-discharge](#)—turns out, it is due to decomposition of the tape that holds the electrodes together. Also, a team at VIT-AP University in India created [MetaSecure](#), a password-free, three-stage authentication system for the metaverse. And an international team of researchers found that [it is possible to generate hydropower without a negative environmental impact](#). In analyzing 3 million rivers around the world, they found that 4,644 could be used to generate power without harming the environment around them.

In other news, a team with members from the Netherlands, the U.S. and the U.K. found that women in the U.S. [have shorter pregnancies than women in Europe](#), as well as higher maternal and infant mortality rates. Also, a graduate student at Princeton University and his advisor found

that the study of the ripples in the fabric of the universe [may reveal the start of time](#). And finally, a team with members from Queen Mary University of London and Barts Hospital, and Cambridge University Hospital, found that [a simple, 10-minute scan](#) could enable detection and cure of one of the most common causes of high blood pressure—the development of tiny nodules in a hormone gland.

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