Best of Last Week—Humans killed off mammoths, new way to make titanium alloys, regenerating neurons

July 8 2024, by Bob Yirka



Prehistoric humans hunt a wooly mammoth. More and more research shows that this species—and at least 46 other species of megaherbivores—were driven to extinction by humans. Credit: Engraving by Ernest Grise, photographed by William Henry Jackson. Getty's Open Content Program

It was an interesting week for human history research, as a team with the

Danish National Research Foundation's Center for Ecological Dynamics in a Novel Biosphere, at Aarhus University, found evidence that, over time, humans have been <u>responsible for the extinction</u> of a number of large mammals such as mastodons, mammoths and giant sloths. Also, a large team of Indigenous study specialists affiliated with several institutions in Australia and New Zealand found evidence in a cave that <u>an Aboriginal ritual</u> had been passed down over 12,000 years. And an international team of researchers studying bone remains uncovered on the Tibetan plateau found <u>evidence of now-extinct humans</u> living there for 160,000 years.

In technology news, a combined team of chemical engineers from MIT and ATI Specialty Materials developed a <u>new way to create titanium</u> <u>alloys</u> with exceptional combinations of strength and ductility. And a team of solar engineers at the Chinese Academy of Sciences and Beijing Normal University developed a <u>new non-fullerene acceptor</u> that achieved 20.2% efficiency in test organic solar cells. Also, a team of AI engineers at Tsinghua University demonstrated a new brain-inspired <u>artificial</u> <u>dendritic neural circuit</u>. It was realized using a computational model of multi-gate silicon nanowire transistors with ion-doped sol-gel films. And a team of molecular engineers at the University of Chicago created the world's first <u>anode-free sodium solid-state battery</u>.

In other news, a team of medical researchers at Case Western Reserve University School of Medicine found that diabetes drugs such as Ozempic can <u>reduce the risk of obesity-related cancers</u>, such as pancreatic, kidney, ovarian, colorectal, liver and esophageal cancers. Also, a pair of psychologists in Ireland and the U.S. found associations between childhood <u>home temperatures</u> and those that people find comfortable as adults. And finally, an international team of biomedical researchers identified key mechanisms that can be used for <u>regeneration</u> <u>of neurons</u>—they successfully transformed glial cells into functional nerve cells.

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