

Best of Last Week – Sun may determine lifespan, super-insulated clothing and a new kind of diet pill

January 12 2015, by Bob Yirka



This artist's conception depicts an Earth-like planet orbiting an evolved star that has formed a stunning Credit: David A. Aguilar/CfA



(Phys.org)—It was a good start to the New Year, particularly for space exploration. Researchers studying images taken by NASA's Curiosity rover noted potential signs of ancient life on Mars—sedimentary rock on the Red Planet looked strikingly like structures made here on Earth by microbes. Meanwhile another team of astronomers announced that eight new planets were found in the "Goldilocks" zone—doubling the number of known small planets to exist in the habitable zone of their parent stars. Also, another team in Norway found that the Sun may determine lifespan at birth—they found a connection between the amount of solar activity occurring when people are born and how long they live. And in somewhat related news, a pair of scientists tackled the mystery of an ancient astronomical device—James Evans and Christian Carman reported on an analysis of a dial on the Antikythera Mechanism believed to have been used to calculate lunar and solar eclipses, and why they believe it sets the date for creation of the machine at around 205 B.C.

It was a good week for technological innovation as well as. A team at Stanford outlined their work with textiles that have been dip-coated in a silver nanowire which they suggest could lead to <u>super-insulated clothing that could eliminate the need for indoor heating</u>. And another team in Korea announced <u>a perovskite solar cell that reached record efficiency</u>—they found a new formula for mixing such structures that allows for creation of cells that are on a par with those made from silicon.

In unrelated news, a team of researchers has found additional evidence that <u>rotating night shift work can be hazardous to your health</u>—their study of female nurses showed a higher incidence from all causes of mortality for those that worked rotating shifts over long periods of time. Also, it was noted that <u>adding a leap second this year is expected to cause Internet problems</u>—users may want to avoid such sites as Foursquare, Reddit, Linkedln and Yelp on June 30 at midnight.

And finally, if you are one of the millions of people struggling to



maintain a healthy weight level, help may soon be on the way as a team of researchers has reported on their efforts to create a more effective diet pill—an "imaginary meal" compound that tricks the body into losing weight. Instead of dissolving into the blood, the pill (fexaramine) remains in the digestive tract, fooling the body into thinking it has a large meal to digest. More testing needs to be done, but so far, they report that the pill does stop weigh gain.

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