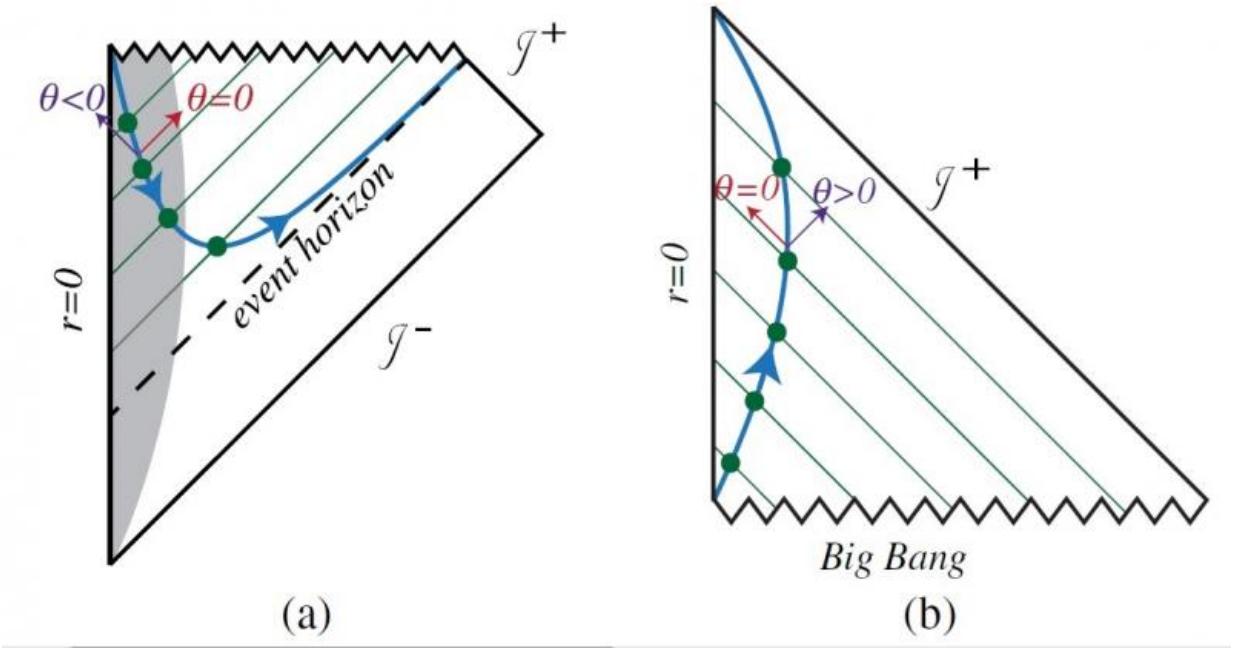
Year in Review—The most important research of 2015: September

December 22 2015, by Bob Yirka



The new area law states that the area of a future holographic screen (the solid blue line in [a]) is always increasing in one direction, while the area of a past holographic screen (the solid blue line in [b.]) is always increasing in a different direction. Credit: Bousso and Engelhardt. ©2015 American Physical Society

(ScienceX)—In this new monthly series, we are offering summary articles featuring links to some of the most interesting, intriguing or popular stories that appeared on ScienceX throughout 2015. This is the September 2015 edition.

In physics news, a pair of researchers, Raphael Bousso and Netta Engelhardt suggested that a new law implies that thermodynamic time runs backwards inside black holes—their ideas were based on "holographic screens," a new area law in general relativity that is based on interpreting black holes as geometric objects. Also, in an interesting twist, a team of researchers at Ohio State University suggested that you're not irrational, you're just quantum probabilistic after conducting research that related physics theory with the way humans make decisions.

In biology news a team of French researchers made headlines by describing a 'Frankenvirus' that had emerged from Siberia's frozen wasteland and announcing that they planned to reanimate it. An international team of researchers announced that they had found that Brazilian wasp venom kills cancer cells by opening them up—without harming normal cells. An 11-institution collaborative effort resulted in the release of the 'Tree of life' for 2.3 million species—a first draft that includes animal, plant, microbes and fungi species.

In other news, a team of researchers from Canada and the U.S. found evidence that suggested Earth's first mass extinction was caused by critters, not catastrophe—the appearance of complex animals, they claim, led to the eradication of the first multi-cellular organisms. A team with members from several institutions in the U.S. concluded that a ban on microbeads offers the best chance to protect oceans and aquatic species. And a pair of researchers, Nichole Fournier and Ann Ross made news by publishing a report that suggested that ancestral background could be determined by fingerprints—which could be helpful to police departments.

In medical news, a team of researchers working at the University of Iowa announced that they had discovered one of the causes of muscle loss and weakness due to aging—a protein, which they also found can be

reduced by eating some fruits and vegetables. Another team of researchers from the U.S. and Great Britain found that drinking caffeine at night delays the human circadian clock, which helps explain why night drinkers tend to stay up later and wake up later.

The January 2015 edition of our Year in Review series can be read here.
The February 2015 edition of our Year in Review series can be read here.
The March 2015 edition of our Year in Review series can be read here.
The April 2015 edition of our Year in Review series can be read here
The May 2015 edition of our Year in Review series can be read here
The June 2015 edition of our Year in Review series can be read here
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