

Best of Last Week—A new magnetic element, the cause of childhood leukemia, and leg exercise improving brain health

May 28 2018, by Bob Yirka

This high resolution electron microscopy image confirms the tetragonal phase of Ru as predicted by the study authors. Credit: University of Minnesota, Quarterman et al, *Nature Communications*

It was another good week for physics as a team led by a group at the University of Minnesota discovered [a new magnetic element](#). They

demonstrated that the chemical element ruthenium is the fourth single element to have unique magnetic properties at room temperature. And a trio of physicists from the University of Oldenburg in Germany described [how a particle may stand still in rotating spacetime](#) by causing the surrounding spacetime to rotate along with it. Also, an international team demonstrated [stronger-than-binary correlations experimentally for the first time](#) between entangled objects. Their findings showed that the quantum measurement process cannot be described as a binary process but rather that stronger-than-binary ternary measurements need to be considered to truly understand how the quantum measurement process actually works.

It was also a good week for biology news as a team from India and the U.K. found that [nanoparticles derived from tea leaves could destroy lung cancer cells](#), perhaps offering a novel new treatment for the deadly ailment. And George Brooks of the University of California [sought to rehabilitate the reputation of lactate](#) by offering a review that showed the small molecule changing from poison to cure. Also, Mel Greaves from the Institute of Cancer Research reported the discovery of [the likely cause of childhood leukemia](#). And a team at MIT found that [nanoparticles carrying two drugs can cross the blood-brain barrier and shrink glioblastoma tumors](#), perhaps offering a way to deal with the notoriously difficult-to-treat brain cancer. Also, a combined team from Purdue University and the Chinese Academy of Sciences found that [CRISPR-edited rice plants could produce a major boost in grain yield](#)—offering from 25 to 31 percent more grain.

And finally, if you have been looking for a relatively easy way to keep your brain healthy, you might want to check out research done by a team with members from the University of Milan and University of Pavia, both in Italy—they found that [leg exercise is critical to brain and nervous system health](#). All it takes, they discovered, is more walking, or better yet, using the leg muscles to lift things.

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