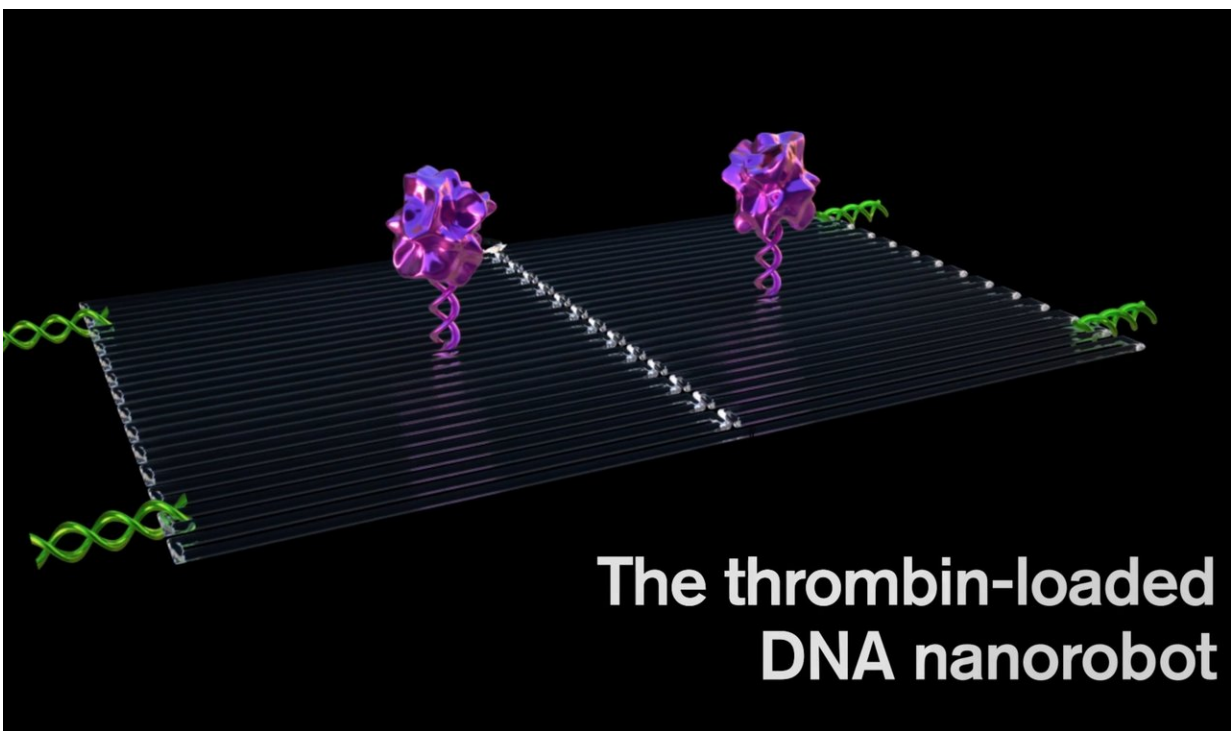


Best of Last Week – A new optical state, cancer fighting robots and running to relieve brain stress

February 19 2018, by Bob Yirka



Thrombin can block tumor blood flow by clotting the blood within the vessels that feed tumor growth, causing a sort of tumor mini-heart attack, and leading to tumor tissue death. Credit: Jason Drees, Arizona State University

It was a good week for physics as a team with members from several institutions in the U.S. reported on [a newly observed optical state that](#)

[could enable quantum computing with photons](#)—they found that it is possible to make photons interact with one another. Also, a pair of physicists, Anthony Bartolotta and Sebastian Deffner found [a way to extend stochastic thermodynamics deeper into quantum territory](#)—they extended the Jarzynski equality to quantum field theory. Also, a team with members from Princeton University, the University of Konstanz and the University of Maryland reported finding that [silicon qubits plus light could comprise a new quantum computing capability](#)—they created a device that showed it was possible to use light as a messenger between qubits that are not adjacent to one another. And an international team of researchers showed that [stock market forces could be modeled with a quantum harmonic oscillator](#). They found that the restoring force in a vibrating quantum harmonic oscillator provides a good approximation of the market force that restores a fluctuating stock return to equilibrium.

In technology news, a team with members from the University of California, Harvard University and the Pennsylvania State University reported [teaching robots to climb walls by mimicking the cockroach headbutt](#)—cockroaches, they found, do not slow down when encountering a wall, they simply slam into it and keep running. And a combined team of researchers from Arizona State University and the Chinese Academy of Sciences reported that they had [developed cancer-fighting nanorobots programmed to seek and destroy tumors](#) by cutting off their blood supply. Also, a trio of researchers at Carnegie University, Hassan Khan, David Hounshell, and Erica Fuchs, claimed that [Moore's law has ended and asked what comes next](#).

In biology news, a team from Johannes Gutenberg University and the Max Planck Institute for Chemical Ecology found that [beewolves have been successfully using the same antibiotics for 68 million years](#), perhaps offering a lesson in how to overcome drug-resistance in viruses and bacteria. And a team with members from several institutions in France and Brazil conducted a study on eating behaviors and found [a](#)

[possible link between highly processed foods and cancer.](#)

And finally, if you are looking for ways to reduce the stress of everyday living, a team at Brigham Young University found that [running helps the brain counteract the negative effect of stress](#) and improves memory too.

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