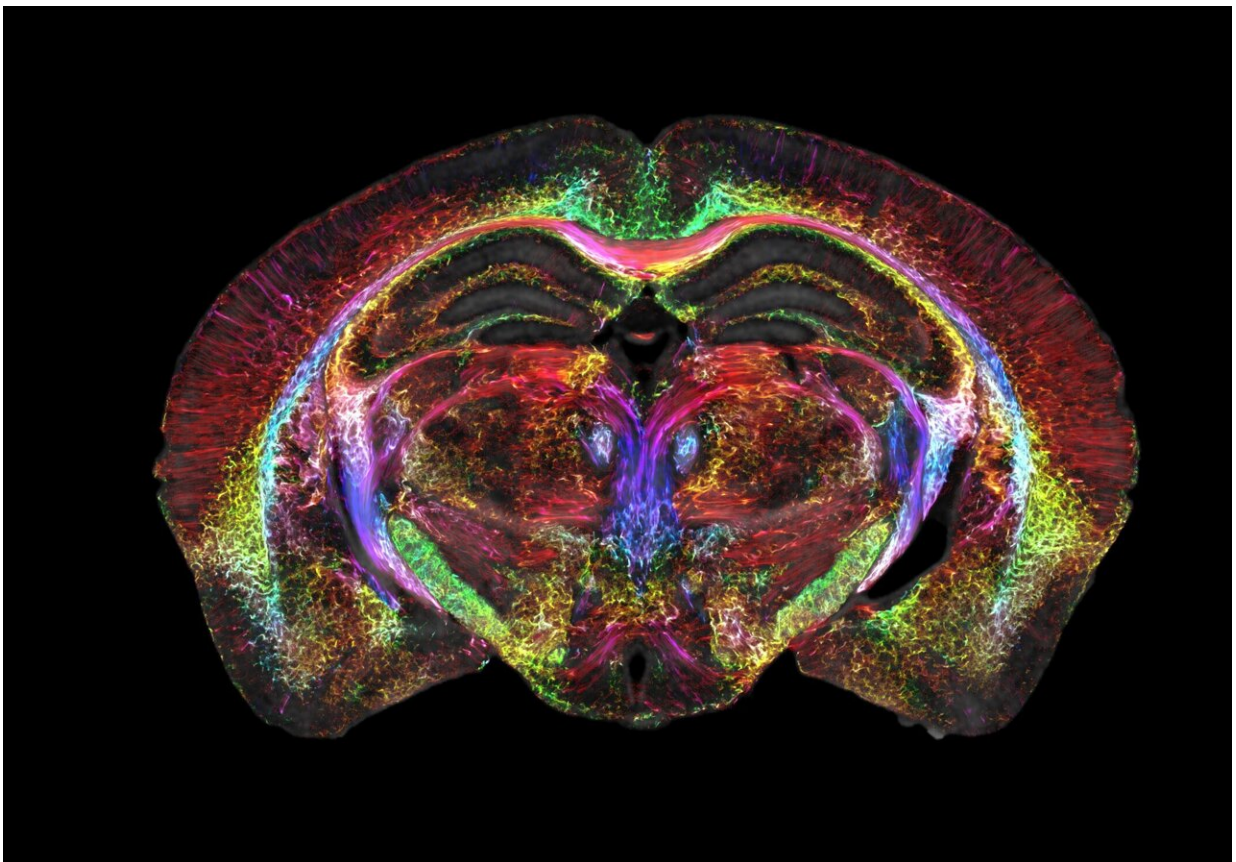


Best of Last Week—Why hair turns gray, a new way to generate electricity, improving MRI resolution

April 24 2023, by Bob Yirka



A super-powerful MRI merged with light-sheet microscopy allows researchers to create a high-definition wiring diagram of the entire brain in mice. Credit: Duke Center for In Vivo Microscopy

It was a good week for the biological sciences, as a team of dermatologists at the Grossman School of Medicine, working with a colleague from Kyoto University Hospital–iACT and another from the Icahn School of Medicine at Mount Sinai, found that some stem cells can move between growth compartments in hair follicles, but get stuck as people age, [losing their ability to mature and maintain hair color](#). Also, a team with members affiliated with several institutions in Japan uncovered [new details of the famed Tully monster](#)—a creature with strange anatomy that lived approximately 300 million years ago that had, until now, defied classification.

In technology news, a team with members affiliated with multiple institutions in China created [a new passive thermoelectric device](#) that continuously generates electricity during the day or night. And a team of computer scientists and engineers at Anhui University of Science & Technology in China, built a model to [automatically identify the sentiment polarity of specific words in written texts](#)—a change that will allow computers to better understand the emotions expressed in sentences. Also, a combined team of computer scientists from Google and Stanford University created what they describe as ["believable" human interactions in the AI world version of Smallville](#). And team of physicists at Bar-Ilan University wondered: [Is deep learning a necessary ingredient for artificial intelligence?](#) They found evidence suggesting maybe not.

In other news, a team of Earth scientists at Arizona State University found that it might be possible to [use solar farms to generate fresh desert soil crust](#)—biocrusts that naturally occur beneath desert floors and harbor communities of living organisms. Also, a combined team of medical researchers from the University of Freiburg, in Germany, and Chalmers University of Technology, in Sweden, looked into the [ways that electricity can heal wounds three times faster](#)—a possible breakthrough for treating wounds that will not heal in diabetic and

elderly people. And a international team of physicists taking a new look at the so-called "Einstein rings" around distant galaxies believe they may have come closer [to solving the dark matter debate](#). And finally, a team with members from the University of Tennessee Health Science Center, the University of Pennsylvania, the University of Pittsburgh and Indiana University found a way to improve the resolution of MRI images, and created [brain images 64 million times sharper than those created using current technology](#).

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