Outwitting poachers with artificial intelligence

A century ago, more than 60,000 tigers roamed the wild. Today, the worldwide estimate has dwindled to around 3,200. Poaching is one of the main drivers of this precipitous drop. Whether killed for skins, medicine or trophy hunting, humans have pushed tigers to near-extinction. The same applies to other large animal species like elephants and rhinoceros that play unique and crucial roles in the ecosystems where they live. Human patrols serve as the most direct form of ...

Newly discovered baby Titanosaur sheds light on dinosaurs' early lives

Long-necked sauropod dinosaurs include the largest animals ever to walk on land, but they hatched from eggs no bigger than a soccer ball. A lack of young sauropod fossils, however, has left the earliest lives of these giants shrouded in mystery. Did they require parental care after hatching like some other dinosaurs, or were they self-reliant? Research funded by the National Science Foundation (NSF) and led by Kristi Curry Rogers of Macalester College in St. Paul, Minnesota, ...
Robert Birgeneau is National Science Board's 2016 Vannevar Bush awardee

The National Science Board (NSB) announced today that Robert J. Birgeneau is the recipient of the 2016 Vannevar Bush Award. Birgeneau is chancellor emeritus at the University of California, Berkeley and holds the Arnold and Barbara Silverman Distinguished Chair in the Departments of Physics, Materials Science and Engineering and Public Policy.
NSB is recognizing Birgeneau, an internationally distinguished physicist and leader in the academic community, for his exceptional public ... 

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Earth's weird and wonderful animal models

Consider, for a moment, the humble fruit fly. Genus Drosophila. Bulbous-eyed and papery-winged, it's the pest you've swatted away from fruit salad and cursed at in your kitchen.
In the scientific world, Drosophila is anything but humble; instead, it serves as a model organism of powerhouse proportions. For over a century, scientists have used Drosophila to reveal insights about genetics and biological development. Multiple Nobel Prize-winning discoveries ...

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First-ever fossil monkey found in North America

Scientists have discovered the first-ever fossil evidence of monkeys from the North American landmass: a 21-million-year-old specimen that changes our understanding of the biological history of the continent.
The fossil monkey is closely related to living South American monkeys, such as capuchins. It somehow made the journey from South America to North America 15 million years before there was a land bridge to travel across. The discovery, which was supported by the National Science ... 

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Federal research funding up 6 percent in FY2014

Federal funding for research rose by $3.7 billion, or 6 percent, between fiscal years (FY) 2013 and 2014, according to a new InfoBrief from the National Center for Science and Engineering Statistics (NCSES). A $1.3 billion increase in research obligations by the Department of Health and Human Services drove much of the upswing in funding. Federal FY2014 obligations for research totaled $62.9 billion. Preliminary data ...

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Computers play a crucial role in preserving the Earth

Computers have helped revolutionize the commercial world and transformed the lives of the general public through the development of the Internet and mobile technologies like the iPhone. But, practically speaking, they have done little for the good of our planet. This troubled Carla Gomes, a computer science professor at Cornell University, and led her to embark on an effort to develop computational methods that can help cultivate a more sustainable world. Gomes and an ...

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Rough childhoods can have ripple effects for wild baboons

Childhood trauma can have far-reaching effects on adult health and survival in humans, studies have shown. Now, new research finds the same is true for wild baboons. People who experience childhood abuse, neglect and other hallmarks of a rough childhood are more likely to develop heart disease, diabetes and other health problems later in life, even after the stressful events have passed, previous research shows. A new study finds that wild baboons who experience multiple ...

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Earth Week: In a drought, which trees risk death?

Drought left 225 million trees dead in the U.S. Southwest in 2002. Nine years later, it killed 300 million trees in Texas. This past year, 12 million trees died in California. Throughout the world, large numbers of trees are dying in extreme heat and drought. Such mass die-offs can have critical consequences for the future of forests and Earth’s climate. On Earth ...

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Big winners in small science challenge take center stage

On behalf of the National Science Foundation (NSF), actor Wil Wheaton and legendary superhero creator Stan Lee yesterday announced the winners of the Generation Nano: Small Science, Superheroes competition, sponsored by NSF and the National Nanotechnology Initiative (NNI). The competition challenged high school students to think big -- or, in this case, small -- to create superheroes that harness their ...

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Earth Day: New insights into coral health hidden in reefs' microbiomes

The following is part 19 in a series on the National Science Foundation (NSF)’s Environmental Research and Education (ERE) programs. See parts one, two, three, four, ...

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The National Science Foundation (NSF) supports research across all fields of science and engineering, from astronomy to zoology. Much of it has a role to play in helping us better understand -- and protect -- our environment. In honor of Earth Week, we're sharing stories of NSF-supported research with an environmental focus, from across the disciplines NSF funds. The infographic above describes just a few of examples, ...

Oil spill cleanups: Finding the right chemistry
Research team uses Deepwater Horizon samples to further refine impact of sunlight and dispersants, improve cleanup models ...

Materials research earns chemistry professor 40th annual Alan T. Waterman Award
On the 40th anniversary of the Alan T. Waterman Award, the National Science Foundation (NSF) selects MIT chemistry professor Mircea Dincă as its 2016 winner. "It's a pleasure to recognize Dr. Dincă as this year's recipient of the Alan T. Waterman Award," said NSF Director France Córdova. "His research in microporous solids is revolutionizing how scientists approach this exciting new technology, opening the door for future discoveries."
Neuroscience research into dyslexia leads to 'brainprints'

A wonderful thing about basic research is its tendency to produce advances researchers hadn't anticipated. Cognitive neuroscientist Sarah Laszlo, for instance, found her early childhood learning studies took an unexpected jump into the worlds of security and identity verification.

Laszlo's research at Binghamton University, State University of New York, uses electroencephalography (EEG) to measure children's brain activity as they learn to read. Through collaboration with colleagues, ...