

## Science News

### **Science Matters in Wisconsin 1(34)**

#### **Science Spotlight**

Bats & Wind Turbines: In the push to develop new forms of sustainable energy, the wind power industry is at the forefront. Turbines that harness the power of wind already serve as effective power sources across the globe, and this proven effectiveness has led to vast increases in the number of turbines currently under construction. The general impact of wind turbines on the environment is likely far less than that of conventional power sources. However, recent evidence shows that certain species of bats are particularly susceptible to mortality from wind turbines. Bats are beneficial consumers of harmful insect pests, and migratory species of bats cross international and interstate boundaries. [http://paper.li/scimatters\\_wi/1313980410#](http://paper.li/scimatters_wi/1313980410#)

### **Science Matters in Wisconsin 1(32)**

#### **Science Spotlight**

Science Friday Podcast: In the new book, *Relics: Travels in Nature's Time Machine*, Harvard entomologist and photographer Piotr Naskrecki documents his travels, from New Guinea to New Zealand and beyond, looking for organisms whose genes can tell us something about conditions on Earth millions of years ago. <http://www.sciencefriday.com/program/archives/201204135>

### **Science Matters in Wisconsin 1(31)**

#### **Science Spotlight**

Florida's Invasive Burmese Pythons: Smithsonian scientists and their colleagues have uncovered a new threat posed by invasive Burmese pythons in Florida and the Everglades: The snakes are not only eating the area's birds, but also the birds' eggs straight from the nest. The results of this research add a new challenge to the area's already heavily taxed native wildlife. <http://smithsonianscience.org/2012/04/invasive-pythons-in-florida-now-eating-bird-eggs-straight-from-the-nest/>

Ultraviolet Images of the Sun: NASA [Solar Dynamics Observatory](#) captured this gorgeous video of a recent outburst from the sun's surface in ultraviolet light. Despite a relatively quiet time of solar activity, chaotic magnetic field lines have been cracking all around the sun for the past few days. One of these produced a modest solar flare during the late hours of Apr. 7. <http://www.wired.com/wiredscience/2012/04/solar-eruption-ultraviolet/>

### **Science Matters in Wisconsin 1(30)**

#### **Science Headline**

Great Blue Herons lay between two and six 2-inch-long eggs per clutch, and they can have up to two broods in a single year. The stars of the Heron cam, run by the [Cornell Lab of Ornithology](#), have laid four eggs every year for the past three years, and all of them have fledged. HERON CAM: <http://www.wired.com/wiredscience/2012/04/great-blue-heron-cam/>

### **Science Matters in Wisconsin 1(29)**

#### **Science Futures** <http://www.wsst.org/sciencefutures/>

Seeking twenty-four K-12 teachers of science with 1+ years of classroom experience who want to improve their own professional development and leadership potential in science education.

Dates: July 22-July 27 (Begins Sunday at 3 PM & Concludes Friday at 12 PM)

Location: Pigeon Lake Field Station, Drummond, WI

Credit: 3 FREE Graduate Credits Available

Full Year Commitment - 1 Credit Summer (Face to Face), 1 Credit each Fall & Spring (Online)

Registration Fee: \$50 (Included meals & lodging)

Application Deadline: April 6, 2012

### **Science Matters in Wisconsin 1(28)**

#### **Science Spotlight**

Sometimes the unexplained can really drive us nuts! Nighttime “booms” and shakes in our own backyard have stumped scientists and led to a real life science mystery:

<http://abcnews.go.com/blogs/headlines/2012/03/mysterious-booms-and-trembles-plague-wisconsin-town-baffle-scientists/>

### **Science Matters in Wisconsin 1(27)**

#### **-Science Spotlight**

*Bad Astronomy: The Moon's history of violence.* The Lunar Reconnaissance Orbiter is a NASA space probe that's been orbiting the Moon since June 23, 2009. On March 19 it will mark its 1000th day in orbit! To celebrate, NASA released [this cool animation](#) showing the history of the Moon.

<http://blogs.discovermagazine.com/badastronomy/2012/03/14/the-moons-history-of-violence/>

### **Science Matters in Wisconsin 1(26)**

#### **Science Spotlight**

Stem Cells Therapy: Restoring Sight to the Blind

Researchers in January released the results of a groundbreaking study that showed human embryonic [stem cells can safely help reverse eye disease](#). The study, conducted at the Jules Stein Eye Institute at the University of California, Los Angeles (UCLA), used retinal cells created from embryonic stem cells supplied by a biotechnology company. The retinal cells were injected into the eyes of two patients suffering from two different forms of progressive blindness and, in time, significantly improved their vision.

<http://blog.chron.com/bakerblog/2012/02/stem-cell-therapy-restoring-sight-to-the-blind/>

### **Science Matters in Wisconsin 1(25)**

#### **Science Spotlight**

Titan has always excited planetary astronomers and science-fiction writers. For good reason. It's a romantic place, orbiting lovely Saturn, the ringed celebrity of the solar system, and it's the only moon with a thick atmosphere. Titan has an active surface carved by wind and rain dotted with oceans and rivers where natural gas falls in big fat droplets and volcanoes spew water like lava.

<http://freethoughtblogs.com/zingularity/?p=2658>

### **Science Matters in Wisconsin 1(23)**

#### **Science Spotlight**

In 2009, Petoukhov and Semenov used computer simulations to predict the impact of decreasing sea ice on weather in Europe. They found [a link between the loss of sea ice and colder winters in Europe](#). Dr. Ptoukhoy said, "Whoever thinks that the shrinking of some far-away sea ice won't bother him could be wrong. There are complex interconnections in the climate system, and in the Barents-Kara Sea we might have discovered a powerful feedback mechanism."

The winter weather in Europe has been driven in a manner similar to what those two scientists predicted. <http://www.independent.co.uk/news/science/science-behind-the-big-freeze-is-climate-change-bringing-the-arctic-to-europe-6358928.html>

### **Science Matters in Wisconsin 1(22)**

#### **Science Spotlight**

Mini Motion: Award Winning Microscope Videos

“Every year, Nikon holds a [photomicrography contest](#) that honors some of the best microscope images you'll ever see. This year, they've added video with their [Nikon Small World in Motion competition](#). The best of more than 200 videos show amazing microscopic activity, including cells dividing, ants feasting and asexual yeast budding.”

<http://www.wired.com/wiredscience/2012/02/best-microscope-videos/>

### **Science Matters in Wisconsin 1(21)**

#### **Science Spotlight**

<http://blogs.discovermagazine.com/badastronomy/2012/01/19/a-planet-boils-away-under-its-blow-torch-star/>

Astronomers have found what appears to be *a planet literally boiling away from the blast-furnace heat of its star.*

The star, KIC 12557548, is about 1500 light years away, and is one of many thousands being observed by the orbiting Kepler Observatory (KIC stands for Kepler Input Catalog, a list of stars under Kepler's watchful eye). The observatory stares at one spot in the sky, looking for stars whose brightness dips periodically. There can be many causes of such behavior, one of which is the presence of planets orbiting the star and blocking the light from it as they pass in front of it. This is called a [transit](#), and has proven to be wildly successful; hundreds of planets have been discovered this way.

### **Science Matters in Wisconsin 1(20)**

#### **Science Spotlight**

Lost Grey Monkey Found! Scientists working in the dense jungles of Indonesia have "rediscovered" a large, gray monkey so rare it was believed by many to be extinct.

<http://www.telegraph.co.uk/science/9027856/Found-The-lost-grey-monkey-so-rare-it-was-thought-to-be-extinct.html>

The National Center for Science Education has spent the last 30 years fighting political attacks on the teaching of evolution in public schools. They have NEVER lost a court battle! NCSE announced last week that they are expanding their efforts to fight attacks on the teaching of climate change. [http://scienceblogs.com/tfk/2012/01/ncse\\_takes\\_on\\_climate\\_change.php](http://scienceblogs.com/tfk/2012/01/ncse_takes_on_climate_change.php)

Speaking of climate change, the global average surface temperature for 2011 was the ninth warmest since 1880. Nine of the 10 warmest years have occurred since 2000. This animation shows global surface temperature by year compared to a mid-20<sup>th</sup> century baseline.

<http://www.nasa.gov/topics/earth/features/2011-temps.html>

### **Science Matters in Wisconsin 1(19)**

#### **Science Spotlight**

World's smallest Frog

<http://news.discovery.com/animals/tiniest-frog-papua-new-guinea-120112.html>

**Jan. 12, 2012** -- With voices hardly louder than an insect's buzz, the tiniest frogs ever discovered are smaller than a coin and hop about the rainforest of the tropical island of Papua New Guinea, report US scientists.

Not only are these little peepers with the big names - *Paedophryne amauensis* and *Paedophryne swiftorum* - the smallest frogs known, they are also believed to be the smallest vertebrates on Earth

### **Science Matters in Wisconsin 1(18)**

#### **Science Spotlight**

“Dinosaur Freeway” in Colorado: More than 350 newly discovered tracks, made by various dinosaurs, crocodiles and a few pterosaurs, were identified at the site, which is now the John Martin Reservoir in Bent County, Colorado. When added to previously found tracks there, the total number of fossilized prints is well over 1,000. The dinosaur freeway is described in the February issue of *Cretaceous Research*.

[http://www.msnbc.msn.com/id/45888948/ns/technology\\_and\\_science-science/t/traffic-was-heavy-dinosaur-freeway-colorado/#.TwkTw3pmkqU](http://www.msnbc.msn.com/id/45888948/ns/technology_and_science-science/t/traffic-was-heavy-dinosaur-freeway-colorado/#.TwkTw3pmkqU)

### **Science Matters in Wisconsin 1(16)**

#### **Science Spotlight**

Censoring Science: The U.S. Science Advisory Board for Biosecurity has asked *Science* and *Nature* to censor some of the details of scientific research related to the Bird Flu. Researchers in the Netherlands and at the University of Wisconsin Madison analyzed the Bird Flu virus, which included determining how the virus might evolve to be more easily passed between people. In the wrong hands, this research could create a potential bioweapon...in the right hands, this research could lead to better ways to combat deadly flu epidemics.

<http://www.reuters.com/article/2011/12/20/us-journals-censor-bird-flu-idUSTRE7BJ2F120111220>

These two blog posts do a nice job of giving a deeper explanation of the research and the controversy.

<http://blogs.discovermagazine.com/loom/2011/12/02/making-viruses-the-natural-way/>

<http://blogs.discovermagazine.com/loom/2011/12/20/should-the-new-flu-stay-secret-or-does-secrecy-kill/>

### **Science Matters in Wisconsin 1(15)**

#### **Science Spotlight**

The news wires are abuzz with the Higgs boson this week. The Higgs boson is (theoretically) the subatomic particle that gives matter mass. Scientists haven't found it yet, but they are closing in. Here are three stories that show the significance of the Higgs boson and describe how scientists are closing in on finding it.

- <http://www.cnn.com/2011/12/13/world/europe/higgs-boson-q-and-a/index.html>

- [http://www.washingtonpost.com/national/health-science/search-for-god-particle-higgs-boson-narrowing-scientists-say/2011/12/13/gIQAHXQTsO\\_story.html](http://www.washingtonpost.com/national/health-science/search-for-god-particle-higgs-boson-narrowing-scientists-say/2011/12/13/gIQAHXQTsO_story.html)

- <http://www.reuters.com/article/2011/12/13/us-science-higgs-brick-idUSTRE7BB27K20111213>

-How a collapsing scientific hypothesis led to a lawsuit and arrest.

This story about research into the retrovirus called XMRV is a fascinating look at bias, scientific ethics, and the process of peer review. It is an excellent example for students to show how ideas are tested and verified by the scientific community. <http://tinyurl.com/arstecnicaxmrv>

### **Science Matters in Wisconsin 1(14)**

#### **Science Spotlight**

- Oiled with water? Understanding low friction fault line movements

Tokyo Institute of Technology researchers uncover the physical interactions between water and minerals that might explain why some fault lines slip without causing catastrophic earthquakes

<http://www.titech.ac.jp/bulletin/topics.html>

- Curiosity on its way to Mars

NASA JPL's Curiosity has launched and will reach Mars in 8.5 months. Follow the mission here: <http://marsprogram.jpl.nasa.gov/msl/>

### **Science Matters in Wisconsin 1(13)**

#### **Science Spotlight**

- Georgetown Center on Education and the Workforce STEM Report

"STEM provides choice for people both immediately after school and at mid-career, allowing people to transition to different and oftentimes more lucrative career pathways, including management and healthcare that provide long-term stability and excellent wages," says Anthony P. Carnevale, the Center's director and the report's lead author.

The report details STEM earnings by occupation, race, sex, and education level, and found:

- For women and minorities, STEM is the best equal opportunity employer;
- STEM pays more than most jobs at each level of education, and at the graduate level is exceeded only by a small sliver of managerial and healthcare occupations; and
- STEM training pays more even if you don't work in a STEM occupation.

### **Science Matters in Wisconsin 1(12)**

#### **Science Spotlight**

The heat is on: A new analysis of the temperature record leaves little room for the doubters. The world is warming

Marshaled by an astrophysicist, Richard Muller, this group, which calls itself the Berkeley Earth Surface Temperature, is notable in several ways. When embarking on the project 18 months ago, its members (including Saul Perlmutter, who won the Nobel prize for physics this month for his work on dark energy) were mostly new to climate science. And Dr Muller, for one, was mildly sceptical of its findings. This was partly, he says, because of "climategate": the 2009 revelation of e-mails from scientists at CRU which suggested they had sometimes taken steps to disguise their adjustments of inconvenient palaeo-data. With this reputation, the Berkeley Earth team found it unusually easy to attract sponsors, including a donation of \$150,000 from the Koch Foundation.

Yet Berkeley Earth's results, as described in four papers currently undergoing peer review, but which were nonetheless released on October 20th, offer strong support to the existing temperature compilations.

<http://www.economist.com/node/21533360>

### **Science Matters in Wisconsin 1(11)**

### **Science Spotlight**

What Happens When You Flush a Toilet in the World's Tallest Building?

The Burj Khalifa is the tallest building in the world. It's located in Dubai, a city with a lot of other skyscrapers. What Dubai doesn't have: A central sewage infrastructure that can accommodate the needs of a bunch of skyscrapers.

You see the problem.

<http://boingboing.net/2011/11/08/what-happens-when-you-flush-a-toilet-in-the-worlds-tallest-building.html>

Russia Books Itself a Spot at Science Top Table

Russian plans a return to the scientific top table, after the ministry of economic development recently approved plans to significantly increase research funding. The Innovative Russia 2020 scheme should see science funding rise to at least 2.5 per cent of GDP. However, some critics think the scheme is overambitious and predict that implementation will run into bureaucratic problems.

<http://www.rsc.org/chemistryworld/News/2011/November/07111102.asp>

### **Science Matters in Wisconsin 1(10)**

#### **Science Spotlight**

Science360 Radio is a new 24/7 internet stream that showcases 100+ radio shows and podcasts from the U.S. and around the world. It's available on the Web and via iPhone, iPad, and Android devices. From the latest news headlines to in-depth interviews and lively discussions, Science360 Radio delivers to a worldwide audience engaging daily programming about all things science, engineering, math and technology. Science360 Radio is a part of the National Science Foundation's (NSF) Science360 network.

<http://science360.gov/>

### **Science Matters in Wisconsin 1(9)**

#### **Science Spotlight**

A Dutch woman who lived to 115 years old credited her longevity to pickled herring, refraining from smoking and limiting alcohol. But scientists are looking to the woman's genetic blueprints, hoping to uncover the secrets of successful aging.

[http://www.sciencenews.org/view/generic/id/335295/title/No\\_shortage\\_of\\_dangerous\\_DNA](http://www.sciencenews.org/view/generic/id/335295/title/No_shortage_of_dangerous_DNA)

### **Science Matters in Wisconsin 1(8)**

#### **Science Spotlight**

A few weeks ago, I sent an e-mail regarding the surprising (and controversial) finding of neutrinos traveling faster than the speed of light. This ongoing story provides a fantastic look at the nature of science and the process of replication and peer review. Scientists are looking at multiple different aspects of the experiment that may have resulted in unaccounted for uncertainties.

[http://www.sciencenews.org/view/generic/id/335309/title/Critics\\_take\\_aim\\_at\\_fast\\_neutrinos](http://www.sciencenews.org/view/generic/id/335309/title/Critics_take_aim_at_fast_neutrinos)

### **Science Matters in Wisconsin 1(7)**

#### **Science Spotlight**

The Commette family...yes, Commette, was surprised when an egg sized meteorite crashed through their roof. "An egg-sized meteorite believed to be 4.57bn years old smashed through the

roof of the Comette family home on the outskirts of Paris some time over the summer when everyone was away on holiday.

And there the rock, blackened by its journey through Earth's atmosphere stayed, buried in the roof insulation, until Hugo's mother, civil servant Martine Comette, 32, noticed the roof was leaking and called out someone to fix it.

The roofer took one look at the broken tile and told the Comettes that whatever had smashed their roof tile must have come from the sky. "It would have had to be superman to break a tile in this way," he said. It was only then that the meteorite, weighing 88g (3.5oz), was discovered."

### **Science Matters in Wisconsin 1(6)**

#### **Science Spotlight**

Scientists from NASA's MESSENGER mission to Mercury describe the mission's initial discoveries. "These revelations emphasize that Mercury is a fascinating world that is unmatched in the solar system," says Blewett. "We have barely begun to understand what Mercury is really like and are eager to discover what Mercury can tell us about the processes that led to formation of the planets as we see them today."

[http://messenger.jhuapl.edu/news\\_room/telecon07\\_press.html](http://messenger.jhuapl.edu/news_room/telecon07_press.html)

### **Science Matters in Wisconsin 1(5)**

#### **Science Spotlight**

Physicists using CERN have found evidence that neutrinos travelled faster than the speed of light. This is an amazing discovery that will have profound impacts on physics. Or, maybe not. The experiment was incredibly difficult to undertake. The results are extraordinary. Can they be replicated? Can these results be independently verified? Although some scientists are dismayed that these results were released before being verified, it has given us a great "insiders" view of the scientific process. In this article, some big name physicists respond to the news:

[http://www.scientificamerican.com/article.cfm?id=ftl-neutrinos&WT.mc\\_id](http://www.scientificamerican.com/article.cfm?id=ftl-neutrinos&WT.mc_id)

### **Science Matters in Wisconsin 1(4)**

#### **Science Spotlight**

Ha! I was right. You are dumber for watching SpongeBob. Well, at least 4-year olds perform worse on cognitive tests immediately after watching a 9 minute clip... What, I can't generalize that to everyone?

Details here: <http://blogs.discovermagazine.com/80beats/2011/09/13/spongebob-not-the-best-test-prep-for-your-4-year-old/>

### **Science Matters in Wisconsin 1(3)**

#### **Science Spotlight**

"In an effort to help preserve endangered rhinos and primates, biologists have converted skin cells taken from the animals into pluripotent stem cells, which can grow into nearly anything, given the right conditions. They might even grow into egg and sperm cells, eventually, the researchers think, suggesting a cell biological route to conservation."

<http://blogs.discovermagazine.com/80beats/2011/09/06/stem-cells-from-skin-suggest-a-way-save-endangered-rhinos-and-primates/>

### **Science Matters in Wisconsin 1(2)**

### **Science Spotlight**

I bet you are expecting Hurricane Irene news... You can find plenty of that elsewhere. Let's do evolution instead! A 160 million year old fossil found in China provides the earliest evidence of an animal using a placenta to nourish young. <http://www.bbc.co.uk/news/science-environment-14651218>

OK, one piece about Irene. Follow the link to a nice quote from Bill Nye about climate modeling and the link between Irene and climate change.

<http://www.cbsnews.com/stories/2011/08/30/scitech/main20099349.shtml>

Check out Science Matters in Wisconsin's Daily Science News Digest:

[http://paper.li/scimatters\\_wi/1313980410](http://paper.li/scimatters_wi/1313980410) (or at [www.sciencematterswi.com](http://www.sciencematterswi.com))

### **Science Matters in Wisconsin 1(1)**

#### **Science Spotlight**

A scientific report about brain chemicals and impulsivity was widely misrepresented during the recent UK riots. The authors of the report respond and share their thoughts about accuracy in scientific reporting and the subtle damage perpetrated by poor reporting. This article could provide a great starting point for class discussions on the importance of "scientific thinking" and critical reading.

Riot Control: How can we stop newspapers from distorting science?

<http://www.guardian.co.uk/science/blog/2011/aug/22/riot-control-newspapers-distorting-science?CMP=twtd>

I have posted a few news reports about Tuesday's Earthquakes here:

<http://www.sciencematterswi.com/earthquake-news>