



Volume 12 Online, Issue 1, Winter 2015



CELEBRATE – 30 YEARS FOR PRCST

As we enter a new year, PRCST will undergo a transition. Detail will be determined later.

Meanwhile – the PRCST website and LASER Newsletter will remain available to everyone.

Do stay in touch with us.

PAST AND FUTURE

The year 2014 was Earth's warmest in 134 years of records, according to an analysis of surface temperature measurements by scientists at NASA's [Goddard Institute for Space Studies](#) (GISS).

In a [separate, independent analysis](#), scientists at the National Oceanic and Atmospheric Administration (NOAA) also found 2014 to be the warmest on record. With the exception of 1998, the ten warmest years in the instrumental record (dating to 1880) have all occurred since 2000.

White House announces climate change guide and toolkit

By Audrey Pinto



Balbus is the lead on NIEHS and trans-National Institutes of Health initiatives in the area of climate change and human health. (Photo courtesy of Steve McCaw)



Health care system executives and public health leaders gathered with HHS Secretary Sylvia Burwell and other senior administration officials Dec. 16 in the Treaty Room of the Eisenhower Executive Office Building for a roundtable discussion of health care system sustainability and resilience. (Photo courtesy of John Balbus)

As part of the President's Climate Action Plan, the administration released Dec. 16 a voluntary guide, [Primary Protection: Enhancing Health Care Resilience for a Changing Climate](http://www.eenews.net/assets/2014/12/15/document_pm_02.pdf) (http://www.eenews.net/assets/2014/12/15/document_pm_02.pdf) .

EDUCATION

12 REGIONAL ConnectED SUMMITS ANNOUNCED

At the ConnectED to the Future summit in November, President Obama announced a series of 12 regional summits across the country. The purpose of the summits is to help local education leaders develop a plan for their district to meet the elements of the Future Ready Pledge, and in so doing helping them realize the President's ConnectED vision of using technology to transform and personalize learning for all students.

We are pleased to announce that, in partnership with the Alliance for Excellent Education, the first Future Ready Regional Summit will take place on February 11th in Raleigh North Carolina.

Superintendents who have taken the pledge are invited to attend the summits along with members of their district leadership team. At the summit the teams will engage a workshop designed in collaboration with over 30 organizations with expertise in leveraging technology to transform learning. District teams will leave the summits with an actionable plan to meet the goals of the Future Ready pledge and the ConnectED vision. We welcome you to attend a regional summit if your schedule permits. For more information on the regional summits, visit <http://www.FutureReadySchools.org>

<u>Date</u>	<u>Location</u>
June 22-23	University of Pittsburgh, Pittsburgh, Pennsylvania

Einstein's 55 Minutes

Donna Shrum

"If I had an hour to solve a problem and my life depended on the solution," Einstein said, "I would spend the first 55 minutes determining the proper question to ask, for once I know the proper question, I could solve the problem in less than five minutes."

Questions and their solutions are the basis of all learning. A good question generates energy and invites exploration. It elevates a commonplace lesson to one that's holy, creating a moment a student remembers years later as an epiphany that cracked open the universe.

Questioning Strategies

January 8, 2015 | Volume 10 | Issue 9

See the Annenberg Learner Update for February: **Motivation: Emotion – Expectations – Environment**

For a full catalog – see order@learner.org. Include your mailing address

SCIENCE NEWS

One of the largest ocean gyres, the North Pacific gyre, is home to an area called the Great Pacific Garbage Patch

(This area contains a relatively high concentration of marine litter. It is estimated to cover an area roughly twice the size of Texas and contain approximately 3 million tons of plastic litter, though much of this plastic is broken up into pieces too small to see with the naked eye. Although the precise origin of the litter is not known, scientists believe that the Garbage Patch was created gradually as the Northern Pacific Gyre captured foreign material and that material was transported to the center of the gyre by

centripetal forces and wind-driven surface currents, creating an area with concentrated litter.

Scientists and Doctors Sound Alarm Over Health Dangers of Oil Spill Dispersants

chescience@lists.healthandenvironment.org [chescience@lists.healthandenvironment.org] on behalf of Teresa Binstock [tcbinstock@q.com]

50th Anniversary LBK's Warning on Carbon Dioxide; The first time a President warned the nation about our carbon habit.

DIRECTIONS

PAEE Annual Conference –Early Bird registration till Feb. 15th.

March 12-15 Lake Raystown Conference Center – www.PAEE.net

Spot the Space Station Over Your Backyard with NASA

For over 14 years, crews have continuously lived and worked aboard the International Space Station (<http://www.nasa.gov/station>). You can see the orbiting laboratory when it passes over your home! NASA's "Spot the Station" service will send an email or text message to those who sign up for the service a few hours before they will be able to see the space station.

When the space station is visible -- typically at dawn and dusk -- it is the brightest object in the night sky, other than the moon. On a clear night, the station is visible as a fast moving point of light ,similar in size and brightness to the planet Venus.

The ISS's trajectory passes over more than 90% of Earth's population. To sign up for "Spot the Station," visit: <http://spotthestation.nasa.gov> (<http://spotthestation.nasa.gov/>) (From Windows on the Universe)

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SSP "LIGHT, COLOR & SPECTROSCOPY FOR KIDS" TEACHER WORKSHOP

This full-day teacher workshop for Middle and Elementary School teachers is scheduled for Mar. 19, 2015 at the National Energy Technology Center in South Park, PA. At the workshop, teachers will explore a wide variety of activities to assist their students in understanding important concepts about light and color. All these activities correlate well with the new Pennsylvania science standards. Teachers attending will receive most of the materials needed to perform these activities in their own classrooms plus 5 hours of Act 48 credit through the Allegheny IU. A registration form is available on the SSP website (www.ssp-pgh.org) at the "Workshops" link or you can email John Varine at [<varine@pittcon.org>](mailto:varine@pittcon.org) to register

SSP Scholarships and Grants

SSP is dedicated to educating members of the scientific community, students, and teachers about spectroscopy and science. We achieve this goal by providing schools in need with equipment necessary to educate students on science. Below is a list of grants we are currently offering.

Each grant has it's own set of application guidelines, so make sure to review the application instructions. Check back often, as new grants will be continuously posted throughout the year.

SSP sponsors the following the grants:

-  [Elementary School Science Olympiad Program \(ESSOP\)](#)
 -  [High School Equipment Grants \(HSEG\)](#)
 -  [Pittsburgh Conference Memorial National College Grants Program \(PCMNCG\)](#)
 -  [College Equipment Grant Program \(CEGP\)](#)
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Scholarships & Grants

The SACP is dedicated to educating members of the scientific community, students, and teachers about spectroscopy and science. We achieve this goal by providing schools in need with equipment necessary to educate students on science. Below is a list of grants we are currently offering.

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SACP sponsors the following the grants:

 [ES/MS Equipment Grants Program](#)

 [Pittsburgh Conference Memorial National College Grant \(PCMNCG\)](#)

 [Elementary School Science Olympiad Program \(ESSOP\)](#)

 [Starter Grant](#)

 [College Chemistry Scholarship](#)

See Mar. 28th Physics workshop: Open source simulations FREE to all students and teachers.

NASA NEWS

Don't miss out on upcoming NASA education opportunities.

For a full list of events, opportunities and more, visit the Educator and Student Current Opportunity pages on NASA's website:

-- Educators <http://www.nasa.gov/audience/foreducators/current-ops-index.html>

-- Students <http://www.nasa.gov/audience/forstudents/current-ops-index.html>

DATABASE

July 14th NASA's New Horizon Spacecraft – the fastest spacecraft when launched - will encounter the dwarf planet Pluto after a more than 3 billion mile trip from Earth.

Neuroscience for Kids –
nfknews@u.washington.edu

NEUROSCIENCE FOR KIDS NEWSLETTER
Volume 19, Issue 1 (January, 2014)

HAPPY NEW YEAR from Neuroscience for Kids

Welcome to the Neuroscience for Kids Newsletter.

In this issue:

1. What's New at Neuroscience for Kids
2. Neuroscience for Kids Site of the Month
3. Neuroscience for Kids Drawing Contest
4. University of Washington Brain Awareness Week Open House
5. New Paper
6. Bloomin' Brains Summer Camp
7. Neuroseeds Teacher Workshop
8. Summer Research for High School Students/Teacher and Undergraduates
9. Media Alert
10. Treasure Trove of Brain Trivia
11. Support Neuroscience for Kids
12. How to Stop Your Subscription

1. WHAT'S NEW AT NEUROSCIENCE FOR KIDS

Neuroscience for Kids had several new additions in December including:

A. December Neuroscience for Kids Newsletter was archived

<http://faculty.washington.edu/chudler/news1812.html>

B. Red or Green Fire Trucks: Which are Safer?

<http://faculty.washington.edu/chudler/redgreen.html>

C. Bicycle Helmets Recalled

<http://faculty.washington.edu/chudler/helmetr.html>

In December, 18 new figures were added and 28 pages were modified.

2. NEUROSCIENCE FOR KIDS "SITE OF THE MONTH"

The Neuroscience for Kids "Site of the Month" for January is "Neurology Now" at:

<http://journals.lww.com/neurologynow/pages/default.aspx>

Neurology Now is an official publication of the American Academy of Neurology (AAN). The magazine is written for patients and caregivers, but anyone interested in research and treatment of neurological disorders will find the information useful. In addition to an online version of the current issue magazine, the web site has an archive to past issues, links to other AAN resources, podcasts and videos.

3. NEUROSCIENCE FOR KIDS DRAWING CONTEST

The deadline to enter the NEUROSCIENCE FOR KIDS DRAWING CONTEST is one month away! Students, teachers and parents are all welcome to participate. Use your imagination to draw a picture about the nervous system and you might win a prize. The complete set of rules and the official entry form for the contest are available at:

<http://faculty.washington.edu/chudler/contest15.html>

The deadline to receive entries is February 1, 2015. Good luck to everyone!

4. 2015 UNIVERSITY OF WASHINGTON BRAIN AWARENESS WEEK OPEN HOUSE

Brain Awareness Week (BAW) is a yearly event to promote the public and personal benefits of brain research. As part of international BAW at the University of Washington, you are invited to an Open House on Tuesday, March 3, 2015.

The Brain Awareness Week Open House will include an interactive group assembly about the brain and hands-on exhibits that highlight different aspects of brain research. The Open House is scheduled for Tuesday, March 3, 2015, in the University of Washington Husky Union Building (Seattle, WA). Because of the high interest in the Open House and limited space available, we must restrict the number of people who can attend. Additional information (parking instructions, etc.) will be sent to the classes that are selected to attend.

For more information about UW BAW Open House, contact Dr. Eric H. Chudler (e-mail: chudler@u.washington.edu) or visit the UW BAW web page at:

<http://faculty.washington.edu/chudler/baw.html>

If you would like to attend the Open House, please complete the online application located at:

<https://catalyst.uw.edu/webq/survey/chudler/253585>

Those teachers and classes selected to attend the Open House will be notified no later than February 1, 2015.

Register early - space fills up quickly!

5. NEW PAPER

"Explain the Brain: Websites to Help Scientists Teach Neuroscience to the General Public" is the title of a paper I wrote with Kristen Bergsman that was published last month in the journal CBE-Life Sciences Education (LSE). The paper describes resources that people can use when they talk to audiences of all ages. I hope people will make use of the ideas in the paper, especially when they are doing presentations during Brain Awareness Week. You can read the entire paper here:

<http://www.lifescied.org/content/13/4/577.full>

6. BLOOMIN' BRAINS SUMMER CAMP

Middle school students are encouraged to apply to the Bloomin' Brains Summer Camp that will be held on the University of Washington campus in Seattle from July 13 to July 15, 2015. This will be the third year of the summer camp and I am sure students will enjoy the experience.

For more information about the camp and online registration, see:

<https://sites.google.com/site/neuroseeds/bloomin-brains-summer-camp>

This camp is sponsored by my Sowing the Seeds of Neuroscience program.

7. NEUROSEEDS TEACHER WORKSHOP

You can call it a summer camp for teachers! Here at the University of Washington, we will hold a workshop for teachers August 3-7, 2014. During the workshop, teachers will work through the Sowing the Seeds of Neuroscience curriculum. Teachers who complete the workshop will be able to check out Neuroseeds kits for use in their classrooms during the school year. For more information and workshop registration, see:

<https://sites.google.com/site/neuroseeds/neuroseeds-teacher-workshop>

This workshop is sponsored by my Sowing the Seeds of Neuroscience program.

8. SUMMER RESEARCH FOR HIGH SCHOOL STUDENTS/TEACHERS AND UNDERGRADUATES

The Center for Sensorimotor Neural Engineering (CSNE) is a National Science Foundation Engineering Research Center with the mission "to develop innovative ways to connect a deep mathematical understanding of how biological systems acquire and process information with the design of effective devices that interact seamlessly with human beings."

As part of the CSNE education program, where I am the Executive Director, high school students, high school teachers, and undergraduate students have the opportunity to join research laboratories during the summer of 2015 on the Seattle campus of the University of Washington. For more information, including requirements and application materials, please visit:

<http://www.csne-erc.org/education>

9. MEDIA ALERT

A. "Why We Have Free Will" by Eddy Nahmias (SCIENTIFIC AMERICAN, January, 2015).

B. "The Acoustic World of Harbor Porpoises" by Magnus Wahlberg, Meike Linnenschmidt, Peter Madsen, Danuta Wisniewska, and Lee Miller (AMERICAN SCIENTIST, January-February, 2015).

C. "When the Cause of Stroke Is Cryptic" by David Kent and David Thaler (AMERICAN SCIENTIST, January-February, 2015).

D. Many neuroscientific discoveries made the top 100 stories of 2014 selected by DISCOVER magazine including: Schizophrenia Study Finds New Genetic Links (#11), Stem Cells Make Insulin, Restore Retinas (#12), Building the Mouse Brain Mega Map (#18) The Best Brain Model Yet (#22), A Sensitive Advance in Prosthetics (#40), How Was My Childhood? I Forget (#52), Can Vitamin D Prevent Alzheimer's Disease? (#65), The Brain's Consciousness Kill Switch (#68), Elephants Recognize Humans By Voice (#70), From the Mouths of Babies (#75), Plotting the Pattern of Emotion (#78), Fly Inspires Better Hearing Aids (#79), Want a Better Brain? Sleep On It (#83), A Jolt for Dull Thoughts (#92), The Nose Knows More Than We Thought (#99).

E. The new issue of SCIENTIFIC AMERICAN MIND (January/February 2015 Issue) has articles about burnout, autism, addiction, happiness, eye tracking and women in science.

F. Last month, Science Centre Singapore opened a new exhibit titled "Tuning in: Brain and Body." The exhibit uses art, imaging and interactive activities to help visitors explore the brain. See:

<http://www.science.edu.sg/exhibitions/Pages/TuninginBrainBody.aspx>

The Franklin Institute (Philadelphia, PA) also has a new exhibit titled "Your Brain"; see:

<https://www.fi.edu/exhibit/your-brain>

G. Free Coursera courses: i. "Medical Neuroscience" taught by Dr. Leonard E. White starts on January 5, 2015; join here:

<https://www.coursera.org/course/medicalneuro>

ii. "Visual Perception and the Brain" taught by Dr. Dale Purves starts on January 7, 2015; join here:

<https://www.coursera.org/course/visualpercepbrain>

10. THE TREASURE TROVE OF BRAIN TRIVIA

A. The National Institutes of Health National Center for Complementary and Alternative Medicine (NCCAM) has been renamed as the National Center for Complementary and Integrative Health (NCCIH).

B. Pioneering neuroscientist and Nobel Prize winner Santiago Ramon y Cajal wrote science fiction books using the name "Dr. Bacteria." (Source: Otis, L., Ramon y Cajal, a pioneer in science fiction, *Int. Microbiol.*, 4:175-178, 2001.)

C. The term "brainwashing" emerged during the Korean War. The word comes from the Chinese phrase "xi nao" that means "to wash the brain." (Source: Steinmetz, S., *There's A Word for It*. New York: Harmony Books, 2010.)

D. The olfactory bulb of a shark makes up to 3-14% of its total brain mass. (Source: Helfman, G. and Burgess, G.H., *Sharks. The Animal Answer Guide*. Baltimore: Johns Hopkins University Press, 2014.)

E. 2014 Nobel Prize winning neuroscientist May-Britt Moser wore a dress with a grid cell pattern to the award ceremony. See the dress at: http://www.matthewhubble.com/Nobel_Laureate_May-Britt_Mosers_Dress.html

11. SUPPORT NEUROSCIENCE FOR KIDS

To ensure that Neuroscience for Kids stays available, we need your help. All contributions to Neuroscience for Kids are tax deductible (subject to IRS regulations). If you would like to donate to Neuroscience for Kids, please visit:

[Help Neuroscience for Kids](#)

12. HOW TO STOP RECEIVING THIS NEWSLETTER

To remove yourself from this mailing list and stop your subscription to the Neuroscience for Kids Newsletter, send e-mail to Dr. Eric H. Chudler at: chudler@u.washington.edu

Your comments and suggestions about this newsletter and the "Neuroscience for Kids" web site are always welcome. If there are any special topics that you would like to see on the web site, just let me know.

Eric

Eric H. Chudler, Ph.D.

(e-mail: chudler@u.washington.edu)

(URL: <http://faculty.washington.edu/chudler/neurok.html>)

The Bionic Man

Browse a selection of technologies and interventions being developed by NIBIB supported researchers. These advancements may one day prevent, heal and cure injuries and diseases.

Happy 20th Birthday – Windows to the Universe; A collection of outstanding NASA resources

windows@windows2@universe.org

CALENDAR OF EVENTS

March 4-7 Green Schools 5th National Conference , Virginia Beach, VA; ed.green.ribbon.schools@ed.gov

March 12-15 PAEE Annual Conference Lake Raystown Conference Center, www.PAEE.net

March 12-14 National Science Teachers Association ([NSTA](#)), Chicago, IL

March 21–23, 70th ASCD Annual Conference and Exhibit Show, Houston, Tex.

April 16-18 National Council of Teachers of Mathematics ([NCTM](#)), Boston, MA

Many thanks to our supporters

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DEP – Education Grants program

Digioia, Gray Assoc.

National Energy Technology Laboratory (NETL)

PDE Office for Environment/Ecology

Phipps Conservatory and Botanical Gardens

McGowan Institute for Regenerative Medicine

Moretti Consulting Group

Spectroscopy Society of Pittsburgh (SSP)

Society for Analytical Chemists of Pittsburgh (SACP)

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