



## The Year of Science 2009 is Right Around the Corner - How Are You Celebrating?

Dear Colleague:

*In the mid-1960s, America was awakened by the beeping of Sputnik, launched by the former Soviet Union. The nation was galvanized into action. Programs were established to attract students to scientific endeavors, and many scientists, engineers, technologists, and mathematicians—now of retirement age—were educated under the auspices of those Sputnik-generated programs. Investments in basic research soared, with widespread, intense support from the public. And the investments in science and in education paid high dividends. Today's Sputnik emits no sound, but it is just as ominous as the one launched a half-century ago.*

—Rita Colwell, *BioScience* editorial, 58:1

The Year of Science 2009 provides the scientific community with an opportunity to respond to today's silent Sputnik: a complacency and lack of public engagement in scientific endeavors. With the vital goals of developing new opportunities for engaging the public in science and emphasizing the significance of science in our lives, science enthusiasts organized the Coalition on the Public Understanding of Science (COPUS). Hundreds of universities, scientific societies, science centers and museums, government agencies, advocacy groups, media, educators, businesses, and industry are leading this long-term, grassroots initiative to increase the public understanding of the nature of science and its value to society. To kick off this initiative, COPUS participants are launching the Year of Science 2009 (YoS09)—a national celebration emphasizing 'How We Know What We Know' about the nature and process of science. By working together and strengthening our collective voice, we can rally the public in support of science, its research, and its findings.

Your participation is critical to the success of the Year of Science 2009 and there are many ways to get involved locally, regionally, and nationally. By simply registering for COPUS, adding a Year of Science logo to your web site and promotional materials, and spreading the word about YoS09 to your colleagues, you are supporting this effort. It can be that simple! If you would like to explore more ways to get involved visit the COPUS web site at [www.copusproject.org](http://www.copusproject.org).

Registration is free and online: [www.copusproject.org/register](http://www.copusproject.org/register). We look forward to celebrating science with you.

Sincerely,

Sheri Potter

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[www.YearofScience2009.org](http://www.YearofScience2009.org)  
January 1, 2009 - December 31, 2009



# YEAR of SCIENCE 2009



## “How We Know What We Know”

The scientific community will shine the national spotlight on science in 2009, by celebrating “How We Know What We Know” in a 12-month event: the Year of Science 2009 (YoS09). The goal of this national celebration is to engage the public in science and improve public understanding about how science works, why it matters, and who scientists are. The 12 scientific themes are as follows:

### Scientific Themes

- January - Process & Nature of Science
- February - Evolution
- March - Physics and Technology
- April - Energy Resources
- May - Sustainability & Environment
- June - Ocean and Water
- July - Astronomy
- August - Weather and Climate
- September - Biodiversity and Conservation
- October - Geosciences and Planet Earth
- November - Chemistry
- December - Science and Health

### Why?

The Year of Science celebrations are led by participants in the Coalition on the Public Understanding of Science (COPUS), a grassroots network composed of more than four hundred participating organizations representing universities, scientific societies, science centers and museums, government agencies, advocacy groups, media, educators, businesses, and industry - formed in response to recent concerns about national scientific literacy.

### 2009 Anniversaries & Celebrations in Science

- 200th anniversary of the birth of Charles Darwin and the 150th anniversary of the publication of his *On the Origin of Species*
- 200th anniversary of the birth of Abraham Lincoln, founder of the National Academy of Sciences
- 400th anniversary of Galileo’s first use of a telescope to study the skies
- 400th anniversary of the publication of Johannes Kepler’s first two Laws of Planetary Motion
- International Year of Astronomy - rediscover the universe through the sky and engage your personal sense of wonder and discovery; [www.astronomy2009.org/](http://www.astronomy2009.org/)
- International Year of Planet Earth - fostering outreach and research activities to raise public and political awareness of the vast potential of Earth sciences for improving the quality of life and safeguarding the planet; [www.yearofplanetearth.org/](http://www.yearofplanetearth.org/)



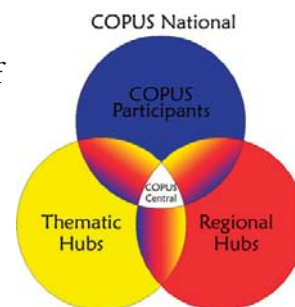
# YEAR of SCIENCE 2009



## The COPUS Network

COPUS National is an active set of interacting networks and hubs that operate locally, regionally, and nationally. At the national level, the Coalition is represented and guided by COPUS Central composed of:

- the **Steering Committee** that provides overall direction for COPUS, approves inductees onto the Action Team, and makes all decisions related to expenditures
- the **Action Team** responsible for COPUS promotion and expansion
- a set of **Advisors**, who offer guidance to the Steering Committee relevant to their areas of expertise
- the **COPUS Network Project Manager**, who is responsible for COPUS communications and the daily operations of the Coalition



COPUS Regional and Thematic hubs provide not only the local connections relevant to a particular regional audience or to a group sharing common interests, but they also provide the potential for a higher level of sustainability for the COPUS effort.

### REGIONAL HUBS

COPUS Regional Hubs are locally-based communities of COPUS participants and science stakeholders that work together within a designated geographic region to promote the public understanding of science.

#### Ann Arbor, MI

Contact: kiberman@umich.edu

#### Ballston, VA

Contact: kbreen@arlingtonva.us

#### Boulder, CO

Contact: CMcLelland@geosociety.org

#### Cambridge, MA

Contact: nkuldell@mit.edu

#### Chicago, IL

Contacts: erindragotto@gmail.com or jean.westrick@msichicago.org

#### Jackson, MS

Contact: rockhold@pharmacology.umsmmed.edu

#### Kansas City, MO

Contact: cynktimk@earthlink.net

#### Las Cruces, NM

Contact: nmbugman@taipan.nmsu.edu

#### North Carolina

Contact: kimberly.kandros@ncmail.net

#### Philadelphia, PA

Contacts: darcav1@aol.com or ken@wondergy.com

#### Ohio

Contact: Hochbein@expo.state.oh.us or George.Viebranz@ideastream.org

#### Orlando, FL

Contact: floridaacademyofsciences@osc.org

#### San Diego, CA

Contact: biobock@mac.com

#### San Francisco Bay Area, CA

Contact: jsctoch@berkeley.edu

#### Santa Fe, NM

Contact: r.eisenstein@comcast.net

#### Seattle, WA

Contact: Mark Terry www.northwestschool.org/

#### South Dakota

Contact: charles.berry@sdstate.edu

#### Southern California Region

Contacts: alchemy@csun.edu

#### St. Louis, MO

Contact: cynktimk@earthlink.net

#### Tampa Bay Area, FL

Contacts: spotter@aibs.org or ahudon@marine.usf.edu

#### Vancouver, CANADA

Contact: sac12@sfu.ca

### THEMATIC HUBS

COPUS Thematic Hubs represent nationally distributed peer communities that are interested in building bridges between their members, COPUS national, and the regional hubs to increase the public understanding of and engagement in science.

- Association of Science-Technology Centers
- Science Cafés
- Sigma Xi Chapter Network
- CollectionsWeb
- Society of Physics Students
- State Geologists

TO LEARN MORE, VISIT: [WWW.COPUSPROJECT.ORG](http://WWW.COPUSPROJECT.ORG)  
or email [spotter@copusproject.org](mailto:spotter@copusproject.org)

[www.YearofScience2009.org](http://www.YearofScience2009.org)  
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# www.UnderstandingScience.org

In conjunction with the January 2009 launch of YoS activities, the COPUS network is excited to celebrate the launch of the new Understanding Science web site.

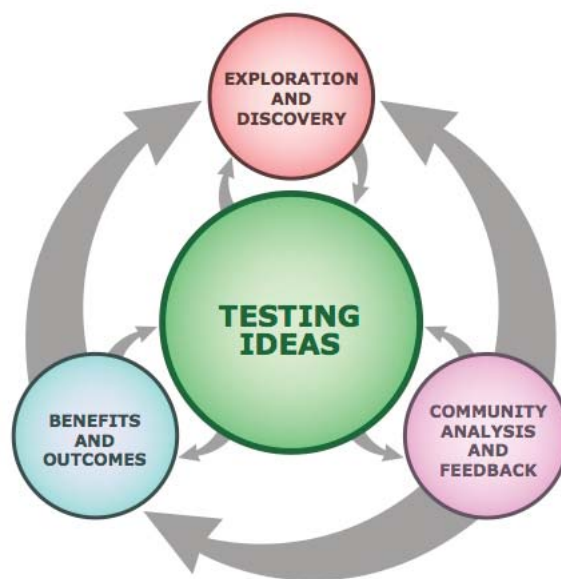
## About The Site

Research indicates that students and teachers at all levels have poor understandings of the nature of science. Many think that science amounts to learning facts from a textbook, following the simple steps of “the scientific method,” and working in an isolated lab. Of course, the true nature of science is much more complex—and exciting! This creative process relies on interactions among scientists around the world who apply a variety of methods to help unravel the mysteries of the universe. Regretfully, this is rarely a perspective reinforced by science textbooks.

Understanding Science is a freely accessible web-based resource that provides a new approach for teaching the nature of science. Its goals are to (1) improve teacher understanding of the scientific enterprise and (2) provide materials and tools that enable K–16 teachers to incorporate the true nature and process of science throughout their teaching.

Highlights include:

- A dynamic representation of the real process of science
- Science stories stressing key nature-of-science concepts across disciplines
- Scientist profiles interlinked with information on how science works
- Cartoons illustrating key concepts
- Regularly updated stories on science in the news
- Activities for direct use by students
- A database of vetted lesson plans
- Teaching tips and strategies
- Clarification of misconceptions
- Friendly but comprehensive background material



Understanding Science reveals the nature and process of science inherent in standard science content from all grade levels and disciplines. Public engagement with science can begin in the classroom!

*Understanding Science is funded by the National Science Foundation (EAR-0624436) and was developed by the University of California Museum of Paleontology in collaboration with scientists, teachers, and web experts.*



# Boston Launch Events

## How To Participate...

### YoS2009 Official Launch Event

The Year of Science 2009 official launch event will take place in Boston on January 3, 2009, in conjunction with the annual meeting of the Society for Integrative and Comparative Biology and the Boston regional hub. Events will include:

**JANUARY 3, 2009** 7:00 p.m. - Ira Flatow, host of NPR's *Talk Of The Nation: Science Friday*, opens the meeting with a plenary presentation emphasizing the importance of public understanding of science. Grand Ballroom, Concourse Level, Westin Boston Waterfront

### Understanding Science Web Site Launch

**JANUARY 5, 2009** THE CELEBRATION CONTINUES!

➤ 12:00 to 12:45 p.m. - Launch of the Understanding Science Web site with Ken Miller and Natalie Kuldell. In concert with the Jan. 6th launch activities, the new Understanding Science web site will be unveiled to the scientific community, introducing an exciting new paradigm for explaining the process and nature of science. Lewis Room, Westin Boston Waterfront

➤ 1:00 to 3:00 p.m. - "Communicating Science in Year of Science 2009: Science Blogging, Science Cafés, and Science Festivals." Lewis Room, Westin Boston Waterfront (three sessions are as follows:)

♦ 1:00 p.m. "Off the Page: Blogging About Science" led by Carl Zimmer, Science Writer, *The New York Times*

♦ 1:40 p.m. "A Scientist Walks Into a Bar: Reaching New Audiences with Science Cafes," led by Ben Wiehe, Outreach Project Director, WGBH Educational Foundation

♦ 2:20 p.m. "Celebrating science and technology in the community: the Cambridge Science Festival" led by John Durant, Director, MIT Museum, Executive Director, Cambridge Science Festival

➤ 6:30 to 8:30 p.m. - YoS09 Launch Science Café and Celebration: join COPUS leadership, hub members, and scientists for food, drink, and fun as we celebrate together! We'll recap the kick-off events and make plans for the great themes coming up in the next few months: Evolution in February and Physics and Technology in March...some big anniversaries and birthdays to engage!  
Location: "Cambridge, 1. Fenway" at 1381 Boylston Street, <http://cambridge1.us/>

**JANUARY 6, 2009**

➤ 6:30 to 7:30 p.m. - "Into The Jungle: Great Adventures in the Search for Evolution and What Students Can Learn From Them," Sean Carroll, University of Wisconsin-Madison. Harbor Ballroom, Westin Boston Waterfront

### Plenary Speakers and Special Sessions

### YoS09 Web Site Launch



# Representative Programs

## Science Cafés

COPUS's monthly newsletter, the *COPUS Clarion*, highlights the outstanding programs of its participants, which facilitate sharing of innovative ways to communicate science. Featured programs range from very simple things that an individual can do, to elegant community endeavors. Here are a few examples of programs highlighted in the *Clarion*.

➤ Whether run by individuals or organizations, science cafés draw crowds to intimate public venues like pubs and coffeehouses, to share drinks, food, and good conversation about science. Anyone can start a café. The basic format is flexible enough to adapt to any local audience.

-Ben Wiehe, Outreach Coordinator, WGBH Educational Foundation  
Printed in 2008 August *COPUS Clarion*

## Science Festivals

➤ Science Festivals are a fantastic way to support a multidisciplinary, locally connected community of peers in working together to engage the public in science. They can take many shapes and sizes but all offer dynamic opportunities for peers and colleagues in a community to think strategically about the way they promote and communicate the science that is happening in that local area to the public.

*"Why bother? Because science is so inherently important, so intensely interesting and so directly relevant to people's lives; and because, by throwing opening the laboratory doors, science festivals can create genuinely inspirational experiences – for everyone, but especially for the potential scientists of the future. Heaven knows that, with so many problems and challenges facing the United States in the 21st century, inspiring the next generation of young scientists seems like a pretty important thing to be doing right now."*

-John Durant, Director, MIT Museum, and Executive Director  
Cambridge Science Festival, Printed in 2008 June *COPUS Clarion*

## "Student Biotech Expo"

➤ This exciting program from the Northwest Association for Biomedical Research in Seattle represents a new type of 'science fair'; one that values the diversity of student talents and abilities and that promotes life long appreciation of science. Gone are the restrictions to traditional research projects, the Expo engages students in exploring science in whatever context resonates with them -- research, music, art, architecture, law, or education. Careful pairing of students with mentors allows students to explore unusual translations of their favorite hobby or activity while exploring science. The Expo represents the culmination of collaborative effort between students, teachers, mentors, judges, sponsors, and the program organizers. By engaging students in new, creative ways that value their individual strengths and talents, the Expo is helping to strengthen both future scientists and Seattle's bioscience community.



## FAQs

### ➤ **What is the Year of Science 2009?**

The Year of Science 2009 is a national, a year-long celebration of science to engage the public in science and improve public understanding about how science works, why it matters, and who scientists are.

### ➤ **Who is organizing Year of Science 2009?**

The Year of Science 2009 celebrations are led by participants in the Coalition on the Public Understanding of Science (COPUS).

### ➤ **What is COPUS?**

The Coalition on the Public Understanding of Science (COPUS) is a growing, grassroots effort whose goal is to engage sectors of the public in science to increase their understanding of the nature of science and its value to society. A key objective of COPUS is to create new forums for communication and to develop new opportunities for engaging the public with science. The coalition is made up of a network of universities, scientific societies, science centers and museums, government agencies, advocacy groups, media, schools, educators, businesses, and industry--basically, anyone who cares about science and is concerned about national scientific literacy.

COPUS National is an active set of interacting networks and hubs that operate locally, regionally, and nationally. Regional and thematic hubs provide not only the local connections relevant to a particular regional audience or to a group sharing common interests, but they also provide the potential for a higher level of sustainability for the COPUS effort.

### ➤ **Who is sponsoring the Year of Science 2009?**

COPUS is sponsored by the American Institute of Biological Sciences, the Geological Society of America, the National Science Teachers Association, and the University of California Museum of Paleontology. The cognizant fiduciary body for the COPUS and Year of Science 2009 projects is the American Institute of Biological Sciences Inc., a nonprofit 501(c)(3) scientific association founded in 1947 as a part of the National Academy of Sciences, and an independent, member-governed organization since the 1950s. Support for COPUS workshops by the National Science Foundation under Grant Nos. EAR-0606600 and EAR-0628790. Any opinions, findings, conclusions, or recommendations expressed in the material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

### ➤ **How do I get involved with the Year of Science 2009?**

It is easy to participate. simply register your organization. Your organization's application will be reviewed by the COPUS Steering Committee and you will be contacted regarding next steps. If you have any questions, contact [spotter@copusproject.org](mailto:spotter@copusproject.org).

For additional information, please visit the Year of Science 2009 web site: [www.YearofScience2009.org](http://www.YearofScience2009.org)