

Bob Hirshon
Program Director for Technology and Learning
AAAS

What do you feel are the major concerns facing the citizen science community?

I think there are many researchers who don't appreciate the value that citizen contributions could offer them, and who therefore either don't involve non-scientists at all, or else use citizen science as an outreach/education tool and don't use citizen-contributed data in their actual research. The solution to this is better communication of success stories, and possibly a set of resources (videos, fact sheets, webinars, science café events, professional development offerings) that show how researchers can involve the public in their work. I think the AAAS could play an important role in this.

I think we can do a better job at being inclusive, looking for opportunities to engage audiences that wouldn't otherwise find and engage with citizen science activities. In addition to focusing on girls and members of minority groups, this should also include people with disabilities. My latest NSF grant explores how to make STEM activities more accessible to children with disabilities, and I would bring this to my involvement with citizen science activities as well.

Another issue is integrating opportunities for public audiences. While there are great resources for finding citizen science programs, it would be ideal if we could work together to provide a ramp for continuing participation. If someone completes one project, they could receive suggestions for new projects that might interest them. If someone fails to complete a project, they could take a quick survey on why they didn't finish it, and maybe receive suggestions for other opportunities that might suit them better.

Finally, we need to work together to tout our success stories with a louder voice, rather than rely solely on the efforts of each individual organization. Again, I think AAAS could help in this regard.

What skills and what types of experience would you bring to the CSA board? (If you self-nominated, this can be similar to what you wrote in the initial form.)

I've spent most of my life engaged in sharing science with the public, from leading mangrove swamp hikes for scout troops under the auspices of the Miami Museum of Science as an undergraduate at the University of Miami, to creation of the *Active Explorer* citizen science mobile app (www.active-explorer.com) through my current job as Program Director for Technology and Learning at the American Association

for the Advancement of Science (AAAS). I produce the annual *BioBlitz Bobcast*—a series of web videos—for the National Geographic/ National Park Service Bioblitz (<http://voices.nationalgeographic.com/2014/04/09/bioblitz-bobcat-counting-critters-and-organizing-organisms/>). I also host the daily radio show *Science Update*, appear as Bob the Science Slob on the Sirius XM children's show *Absolutely Mindy* (<http://www.aaas.org/news/aaas%E2%80%99s-bob-hirshon-brings-science-facts-%E2%80%99Cabsolutely-mindy%E2%80%99D-kids%E2%80%99-radio-program>) and starred as the inquisitive, hyperactive computer ALEC on the Peabody Award-winning radio drama *Kinetic City Super Crew*. I am a Maryland Master Naturalist and volunteer with the Audubon Naturalist Society. Currently, I am spearheading citizen science efforts at AAAS, including development of citizen science mobile technology and a partnership with the National Park Service.

Biographical Sketch: Robert Hirshon

(a) Professional Preparation

University of Miami	Biology/English	AB 1979
Boston University	Science Journalism	MS 1981

(b) Appointments

1987--present: American Association for the Advancement of Science, Program Director, Technology and Learning Programs

Hirshon heads up technology and media-based science education activities within the AAAS Directorate for Education and Human Resource Programs. He was Principal Investigator on the NSF- supported **KC Empower** project, to investigate the use of Universal Design for Learning (UDL) techniques for increasing the accessibility of STEM learning activities.

Hirshon's team runs **Science NetLinks**, a project he began in 1997 to provide free science lessons, apps and other resources to educators. *Science NetLinks* was awarded the ComputerWorld/ Smithsonian Award for Innovation. *Science NetLinks* created the **Gravity Launch** and **Classify It!** learning apps for children.

Hirshon also conceived and developed the **Active Explorer** mobile app and website, which allows educators and scientists to create data collecting Quests that kids perform on their mobile devices.

Hirshon is a member of the NASA MESSENGER Education/ Public Outreach team, creating education materials for the first orbital mission to the planet Mercury. He has developed a 3D Mercury globe that runs in Google Earth, as well as other games, simulations and other materials.

Hirshon created and manages the NSF-supported Kinetic City family of projects, including the Peabody Award-winning **Kinetic City Super Crew** radio program, **Kinetic City After School**, winner of the 2004 Codie Award for Best Elementary Education Software Solution, **Spark Club** and **Science Gym**. Hirshon managed the *Kinetic City* McGraw-Hill book series based on the show and was Principal Investigator on the NSF-Funded **Kinetic City Cyber Club**.

As Executive Producer of **Science Update**, Hirshon writes/ edits and narrates a daily 60-second radio show airing nationally on over 400 stations. In 2007, Hirshon spent two weeks in Nigeria conducting workshops in science radio reporting for 200 Nigerian journalists and from 2001-2003 led the AAAS/ South Africa Science Radio Journalism project, teaching science journalism to South African reporters.

1985-86: WGBH- TV and Radio, Boston, Science Fellow

Produced and co-produced the weekly television show **Science Gazette**, which aired nationally on public television. Also wrote, produced and narrated radio science features for local and national broadcast; co-produced and narrated a short science film feature for broadcast on public television.

1984-85: Science Journalist

Wrote numerous science-related articles, for newspapers, magazines and books, including **High Technology**, **Popular Science**, **The Boston Globe**, and **The Almanac of Science and Technology**.

1981-83: **Digital Design** magazine, Managing Editor

Supervised all aspects of large, international computer trade magazine with staff of 23.

1980: Benwill Publishing, **Technology Transfer Times**, Editor, environmental science

Wrote and edited material for this newspaper covering emerging technologies

(c) Publications

Hirshon, Bob. “KC Empower Project: Designing more accessible STEM learning activities.” *K-12 STEM Education*. Volume 2, No. 1, January 2016. IPST, Bangkok, Thailand.

Hirshon, Bob. “The Science of Yo-Yos: Fun Experiences with Energy, Motion and Momentum.” Booklet provided with *AAAS Science of Yo-Yos Teacher Kit*. AAAS, 2008.

Hirshon, Bob. “Kinetic City Web Site” (www.kineticcity.com). Wrote and/or edited all material—hundreds of pages—on current Kinetic City website. AAAS, 2003-2015

Hirshon, Bob, “Kinetic City CD ROM.” Wrote all material. AAAS 2008.

Reporter/writer for thousands of *Science Update* radio stories including:

Prosthetic Touch. Engineers successfully add realistic touch sensors to prosthetic fingers. *Science Update*, 10/17/2014

Programming Plants. In a significant step beyond genetic engineering, synthetic plant biologists create novel biological building blocks and design systems to integrate them. *Science Update*, 10/16/2014

Seafloor Mapping. Space-based sensing is helping to chart unknown ocean floor topography. *Science Update*, 10/8/2014

Syrian Cultural Site Destruction. War in Syria is reducing much of the country’s cultural heritage to rubble. *Science Update*, 10/03/2014

Savage Yard. NSF-supported pilot for national weekly television series. Fisher Television Productions/Bob Hirshon (host/writer), 2008

(d) Synergistic Activities

Hirshon appears on the children’s satellite radio program *Absolutely Mindy* as “Bob the Science Slob,” answering children’s science questions. He also emcees numerous science outreach events, including the USA Science and Engineering Festival X-STEM event, the AAAS Annual Meeting Family Science Days stage, and the AAAS Science Film Showcase. He produces a natural history video blog for the annual National Geographic/National Park Service BioBlitz, distributed by National Geographic. His original music has been featured on National Public Radio’s *Science Friday*.

(e) Collaborators & Other Affiliations:

Fisher, Albert, President, Fisher Television Productions—Co-PI on Savage Yard NSF planning grant.

Sosa, Maria, Sr. Project Director, AAAS—Co-PI on National Institute of Health Alcohol Education project

Graduate Advisor: Buchbinder, Harold (deceased), Director, Science Communications, Boston University

Thesis Advisor: None