

Brilliant!Science

Extraterrestrial Life

September 28–October 26, 2013



The California Academy of Sciences presents Brilliant!Science, an out-of-this-world festival celebrating astrobiology, space exploration, and the search for extraterrestrial life. Enjoy a wide range of programs, family activities, lectures and social events throughout October!

In collaboration with



SETI INSTITUTE

calacademy.org/brilliantscience/
#BrilliantSci2013

SEPT 28 **Eye-Opening Science: Conversation and Controversy**
9:00–10:30 AM | Board Room

Earth 2.0: Where is it? Can We Visit?
Earth: A Single Point Failure

SPEAKERS: David DesMarais, NASA Ames; Russell (Rusty) Schweickhart, former NASA astronaut and chair emeritus, B612 Foundation; and Carl Pilcher, NASA Solar System Exploration

This conversation will revolve around whether our search for Earth 2.0 and other exoplanets is an absolute requirement for humanity's survival. Are there alternatives to moving out? What can the climate changes we study on other worlds tell us about the potential for husbanding our world successfully?

Moderated by Academy Fellow Dr. Jill Tarter, Bernard Oliver chair for SETI, SETI Institute; welcome by Dr. Terry Gosliner.

TICKETS: Adults \$35, Members \$25, Seniors \$25; Series tickets: Adults \$90, Members \$70, Seniors \$70.

Coffee, tea and pastries provided. Ticket does not include museum admission.

OCT 10 **Otherworldly NightLife**
(ages 21+)
6:00–10:00 PM

Plunge into the mysteries of our Universe (and beyond) with a cocktail in-hand during a cosmic edition of NightLife. Every Thursday evening, NightLife features

provocative science, mingling, music, creatures and cocktails for adults ages 21+. Extraterrestrial life welcome.

TICKETS: Adults \$12, Members \$10. Additional details at calacademy.org/nightlife

OCT 12 **Eye-Opening Science: Conversation and Controversy**
9:00–10:30 AM | Board Room

Cosmic Evolution: A Scientific Creation Myth Like No Other

SPEAKERS: Academy Fellows David Morrison, Director of the Carl Sagan Center for the Study of Life in the Universe, SETI Institute; and Eugenie Scott, Executive Director, National Center for Science Education

Our current standard model of cosmology is, in fact, just the latest in a long line of "creation myths." Why does it matter that this one is told by scientists? How can we encourage the general public to adopt suggested solutions for current/pending environmental challenges, when they appear to be losing confidence in science and scientists?

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OCT 12 **Family Festival: Extraterrestrial Life (Day 1)**
10:00–4:00 PM

Explore Extraterrestrial Life through informative, interactive programs for the whole family. The Academy's public floor will host hands-on demonstrations that investigate how scientists search for extraterrestrial life. Learn how scientists use rocks to tell what conditions may or may not support life, use scientific data to visualize what extraterrestrial life might look like, and discover how undergraduate students are contributing to the field of astrobiology. Guests can also visit guest cartoonists to playfully imagine life on other planets. Interactive activities that explore life outside our planet will entertain families all weekend long.

PARTICIPANTS: 2013 iGEM Stanford-Brown Team; American Institute of Aeronautics and Astronautics (AIAA); Cartoonists Michael Capozzola, Jonathan Lemon, Erin Smith, and special guests from The Cartoon Art Museum; Destination Science; NASA Ames Research Center; NOVAS: NASA Opportunities in Visualization, Art, and Science; Techbridge; and others.

TICKETS: General Admission pricing.

OCT 13 **Family Festival: Extraterrestrial Life (Day 2)**
10:00–4:00 PM

See above for event details.

OCT 14 **Benjamin Dean Lecture**
7:30 PM | Morrison Planetarium

The Search for Habitability and Life Beyond Earth: From micro-ETs to Exoplanets

SPEAKER: Nathalie A. Cabrol, Planetary Scientist at the Carl Sagan Center (SETI Institute) NASA Ames Research Center

The last decade has seen a revolution in astrobiology—the study of the origin, evolution, distribution, and future of life in the universe. Results returned by planetary missions in the Solar System such as *Messenger*, *Venus Express*, the Mars

Exploration Rovers, *Mars Reconnaissance Orbiter*, *Mars Express*, MSL and the *Curiosity* rover, *Cassini*, and *Kepler*, as well as multi-disciplinary research in terrestrial extreme environments, have resulted in a new, inclusive, vision of astrobiology. What we learn from one planet helps us understand others, including our own, and guides the design and planning of future astrobiology-focused missions. In her presentation, Dr. Cabrol will discuss this revolution in astrobiology, with the latest updates from these various missions, and where we stand on our quest to understanding habitability and find life beyond Earth.

TICKETS: Members \$8, Seniors \$10, General Admission \$12.

OCT 16 **Nerd Nite SF (ages 21+)**
8–10 PM (Doors open at 7 PM) | Rickshaw Stop, 155 Fell Street at Van Ness

PRESENTERS: Academy Fellow Seth Shostak, Senior Astronomer, SETI Institute, and Ryan Wyatt, Director of Science Visualization, California Academy of Sciences

Seth Shostak knew he would spend his life hunting for signs of life in the universe from the time he was just 10 years old. Now, he is the Senior Astronomer at the SETI (Search for Extraterrestrial Intelligence) Institute. The mission of the SETI Institute is to explore, understand and explain the origin, nature and prevalence of life in the universe. Shostak has published hundreds of scientific articles, written several popular books and even has his own radio show. Ryan Wyatt, the director the Morrison Planetarium at the California Academy of Sciences will join him on stage to hear him reveal his latest confessions as one of this world's leading alien hunters! We all know that learning is more fun when you're drinking with friends and colleagues. Thus, Nerd Nite is a monthly event held in more than 50 cities across the globe during which science nerds give 18–21-minute fun-yet-informative presentations while the audience drinks along. As nerds and non-nerds like to say, "Nerd Nite is like the Discovery Channel™...with beer!"

TICKETS: \$8. Tickets will be available at sf.nerdnite.com/ several weeks ahead.

OCT 18 **Penguins & Pajamas: Extraterrestrial Sleepover**
Children ages 5+ with their adult chaperones
6 PM (10/18) – 8 AM (10/19)

Do you ever look up at the starry night sky above and wonder, "are we alone"? Well, grab your sleeping bag and join us for our Brilliant!Science Extraterrestrial Penguins + Pajamas Sleepover event! Become a star gazing guru while touring our night sky during an after-hour planetarium show. Take a solar system walk to learn about our own cosmic neighborhood and potential life in our solar system, and much more. Before bedtime, enjoy cookies and milk then attend late night show in the Planetarium, Hohfeld Hall, or a bedtime story in Tusher African Hall. When the lights go out, unroll your sleeping bag in Tusher African Hall, next to the swaying kelp of the California Coast tank, or even at the Swamp window, face-to-face with Claude, the albino alligator. In the morning, rise and shine, then head over to the Academy Café for a full breakfast.

RESERVATIONS: Members \$79 per person. Non-members \$99 per person. Group rates available for groups of 10 or more.

OCT 26 **Eye-Opening Science: Conversation and Controversy**
9:00 AM–10:30 AM | Board Room

SETI: The Archaeology of the Future

SPEAKERS: Academy Fellow Geoff Marcy, Professor of Astronomy, UC Berkeley, Andrew Fraknoi, Professor of Astronomy, Foothill College, and Academy Fellow Seth Shostak, Senior Astronomer, SETI Institute

The successful detection of a signal from another extraterrestrial technology would tell us that, on average, technology is a stabilizing influence and we could have a long future if we get it right. What are the statistics? What can we really learn—if we get a signal and if we do not? How long should we listen before we transmit?

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