

Astronomer, Public Speaker, Author

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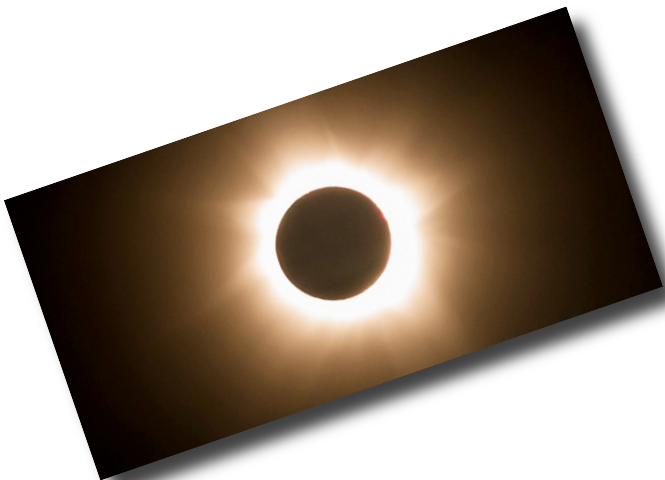
About Dr. Bobrowsky:

- Internationally known astronomer
- Discoverer of the [Stingray Nebula](#) using the Hubble Telescope
- Author of science books
- Public speaker (See page 5)
- Author of over 50 science publications
- Gifted science demonstrator and communicator
- Winner of multiple awards for teaching excellence



Total Solar Eclipses

An interactive, audience-participation presentation that includes the following topics and more!



- What's cool about an eclipse?
- What is an eclipse?
- Where to view the eclipse?
- How often do eclipses occur? When is the next one?
- How to safely view the eclipse. (Eclipse-viewing glasses will be available.)
- Fun facts about the sun, moon, and eclipses
- All presentations feature live demonstrations

Other Presentations:

Outdoors

Nighttime Stargazing

Sometimes called a “star party,” this includes a laser-guided tour of the constellations and, depending on when it is scheduled, telescopic views of the moon and some planets.



Indoors

"Our Place in Space"

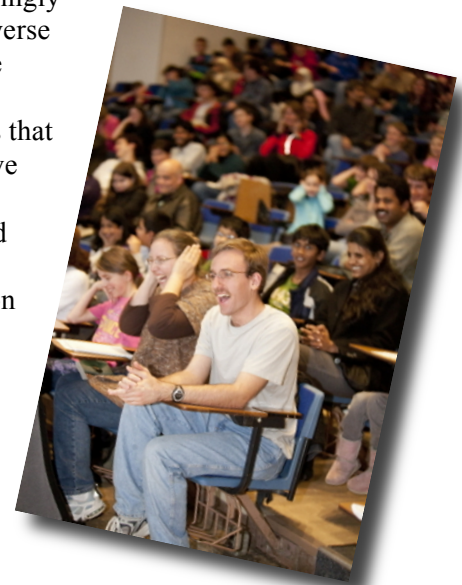
It's an enormous, seemingly incomprehensible universe out there. How do we even begin to fathom objects and distances that dwarf anything we've ever experienced?

You may have heard some of the numbers — our galaxies contains 200 billion

stars; the closest star to our solar system is

25 trillion miles away. Can we really understand

numbers that large? Earth's place in space *is* knowable in a tangible way. The secret is placing the universe in a context that is *familiar*. You're not convinced? Come and take this magical journey from our home planet Earth to points unknown. I promise when we come back home, you'll have a new understanding of our place in the universe.



"Planetary Nebulae: The Most Beautiful Astronomical Laboratories"

Near the end of their lives, stars like the sun blow off a layer of gas. Radiation from the star makes the gas glow and form a beautiful glowing cloud called a *planetary nebula*. Through slides and demonstrations, we'll find out why planetary nebulae glow in different colors and have the strange variety of shapes that are observed. See planetary nebulae that Dr. B. discovered!



"Astrobiology: Life in the Universe"

Are we the only intelligent civilization in our galaxy, or is the Milky Way teeming with life? What might E.T. really be like? How are we looking for places he might call home? How could we say “hi” to E.T.? If there are other civilizations in our galaxy, why haven't we seen convincing evidence

of their existence? Is a civilization likely to leave its

home planet and colonize other planets and, perhaps, the entire

galaxy? Will we colonize space? How could we do it? These questions will all be addressed (but only partially answered) during this fascinating journey through the possibilities of life in the universe.





"Science with the Hubble Space Telescope"

Hear why the Hubble Space Telescope (HST) is so successful! What are the advantages of having a telescope in space? Are there disadvantages too?

In this illustrated talk, you will see not only how HST works, but also many of the exciting discoveries that were made with HST, including the presenter's own photographs taken with HST. Find out from a real astronomer just what it is like to use the Hubble telescope, and see views of many astronomical objects, including planets, stars, glowing clouds of gas, and distant galaxies.



"Cosmic Evolution: From the Big Bang to Humans"

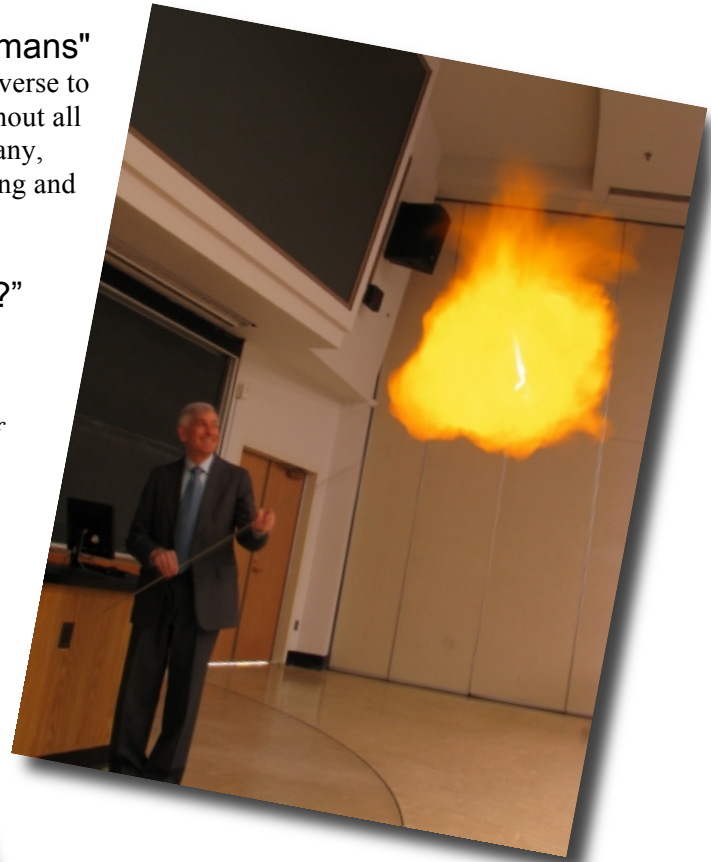
The tremendous expanse of time, from the origin of the universe to the present and beyond, spans several major epochs throughout all of history. Cosmic evolution is the amazing story of the many, varied changes in the energy, matter, and life in an expanding and cooling universe.

"Light Pollution: Can we bring back the stars?"

Ralph Waldo Emerson wrote:

"If the stars should appear one night in a thousand years, how would men believe and adore; and preserve for many generations the remembrance of the city of God which had been shown!"

What did Emerson think there was to adore about the appearance of the stars? For people living in urban areas where a majestic view of the night sky has been replaced by the glare from artificial lights, there is no longer anything to adore! What have we lost because of "light pollution"? What could we see if the skies were truly dark?



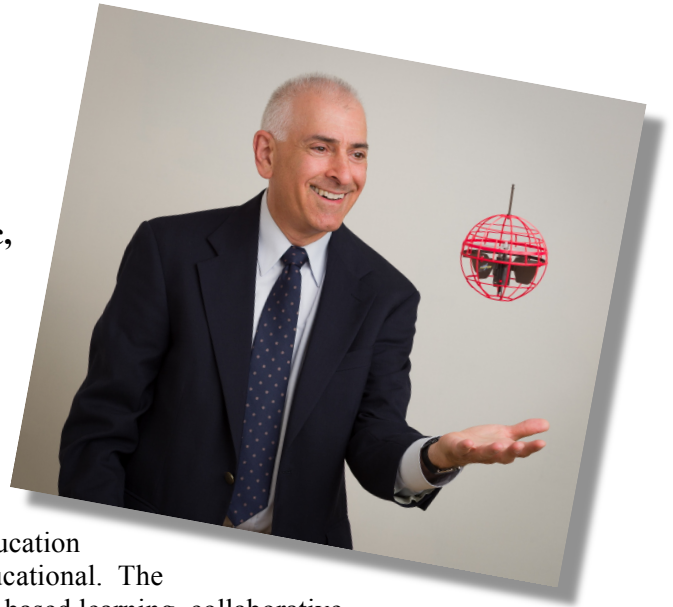
Educational Presentations

What's your physics IQ?

See some very cool demonstrations, and see if you can guess what's going to happen!

Phenomenon-Based Learning: Engaging, Authentic, and Fun!

Phenomenon-Based Learning (PBL) builds knowledge of—and interest in— physical science as a result of observations of real-world phenomena, or just some fun gizmos and gadgets. Why PBL? PISA assessments showed that Finnish students were among the top in science proficiency levels. The PBL teaching philosophy combines elements of what's done in Finland with what's known about effective science teaching based on science education research to present science in ways that are both fun and educational. The approach includes elements of progressive inquiry, problem-based learning, collaborative learning, responsive teaching, and hands-on experiments. The idea is to teach broader concepts and useful thinking and performance skills (as with *NGSS*) rather than asking students to simply memorize facts and formulae. Students will investigate an interesting gadget and, motivated by their own curiosity, explore and discover how it works and what physical phenomena are involved. It's an effective approach to learning based on curiosity and creativity — a fun way to learn!



The REAL Process of Science

Contrary to what is frequently taught in school (and to what most of us were probably taught), there is no "standard" scientific method that real scientists use. What are the common misconceptions about hypotheses, experimentation, observation, and other lock-step scientific method procedures currently in vogue. See—and experience—how real scientists actually conduct their work. Learn how to revise science fair procedures and instructions to reflect the *real* scientific method, so that students can learn the full range of activities that are possible when undertaking scientific research.

Teaching Evolutionary Processes to Skeptical Students

Sooner or later, science teachers encounter a student who disbelieves, or is at least skeptical of, factual information presented about the age of the earth, the age of the universe, astrobiology, or biological evolution. Understanding the evidence and current state of our scientific knowledge about these subjects is important for the science teacher faced with skeptical students. Hear a summary of different types of pseudoscientific beliefs students have, and possible ways to approach these subjects — in a non-threatening way — so that skeptical learners are more likely to consider the facts presented in the science class. Also included are some useful approaches for respectfully responding to creationists' claims involving "Irreducible Complexity" and "Intelligent Design."

Dr. Bobrowsky's Public Speaking...

- [“Nifty Fifty” Speaker for the USA Science and Engineering Festival](#)
- [On speakers’ list for the American Astronomical Society](#)
- Featured science presentations for Smithsonian Journeys / Celebrity Cruises
- Presentations for the U.S. Consulate in Guadalajara
- Presenter and keynote speaker at conferences of various science teachers associations
- Public Lecture Series speaker at the Hubble Space Telescope Science Institute.
- Presenter for public “Physics is Phun” programs, reaching audiences totaling 4,000 per year
- Presenter of Family Science Nights nationwide for the Challenger Center for Space Science Education
- Presenter of Family Science Nights at the National Air & Space Museum, Washington, D.C.
- Presentations for NASA
- After-dinner speaker

