

Bright Horizons™ 9



BERMUDA • MAY 8th – 15th, 2011

www.InSightCruises.com/SciAm-9



Cruise prices vary from \$799 for an Inside Stateroom to \$2,899 for a Full Suite, per person. For those attending our program, there is a \$1,275 fee. Government taxes, port fees, and InSight Cruises' service charge are \$169 per person. For more info contact Neil at 650-787-5665 or neil@InSightCruises.com

TEST THE WATERS. EXPLORE A MYSTERIOUS REALM, THE SUBJECT of myth, speculation, and theory. While you linger in a vertex of the Bermuda Triangle, delve into secrets, questions, and emerging evidence about the human brain. Get a clear look at the latest in cognitive science, particle physics, and American archaeology. Join Scientific American, dedicated scientists, and fellow inquiring minds on Bright Horizons 9, an effortless and exuberant Bermuda jaunt, round trip New York City on Holland America Line's m.s. Veendam, May 8–15, 2011.

Updated on Bright Horizons 9, you'll bring a breath of rational fresh air to discussions of evolution, the paranormal, and urban legends. Make waves with a look at gender and the brain. Examine how virtual reality impacts face-to-face life. Satisfy your curiosity about the persistent appeal of extra dimensions. Fill in the blanks in Colonial American archaeology and cultural anthropology with a discerning look at Florida and the southeastern United States.

Start your version of Bright Horizons 9 off with an optional visit to NYC's Rose Center/Hayden Planetarium. Then, set sail and let Bermuda bring you a smile with its unique and very British take on the idiosyncrasies and pleasures of island life. Play a little golf, visit a fort, take tea. Visit InSightCruises.com/SciAm-9 or call Neil or Theresa at 650-787-5665 to get all the details. Prepare to simultaneously kick back, and sharpen your science sense on Bright Horizons 9.



VIRTUAL WORLDS

Speaker: Jeremy Bailenson, Ph.D.

Buying and Selling 1's and 0's: How Virtual Reality Changes Marketing — Why would anyone spend real money on a virtual sweater? Did someone actually make a \$1 million selling clothes to avatars? Virtual worlds are becoming personalized social spaces which provide entertainment, commerce, well-being, and even a source of personal identity. Dr. Bailenson will highlight the ways in which researchers and consumers are currently using virtual worlds, discuss psychological experiments that show the similarities and differences between online and face-to-face behavior, and examine the unique opportunities the virtual world provides market researchers.

Virtual Bodies and the Human Identity: The Proteus Effect — In "Avatar" the protagonist learns that occupying the body of another has its consequences. Cyberspace grants us great control over our self-representations. Dr. Bailenson and colleagues have explored how putting people in avatars of different physical features such as age, race, and gender affect how they behave not only in a virtual environment but in subsequent physical interactions as well. Inquiring minds want to know — as we choose our avatars online, do our avatars change us in turn?

Transformed Social Interaction in Virtual Worlds — Collaborative virtual environments (CVEs) are evolving the nature of remote interactions, including business meetings. CVEs incorporate participants' verbal and nonverbal signals into avatars. Unlike in telephone conversations and videoconferences, CVE participants can systematically filter the physical appearance and behavior of their avatars in real-time for strategic purposes. Join Dr. B as he updates Grandma's advice to "never judge a book by its cover" and discusses:

- Do CVEs qualitatively change the nature of remote communication?
- What impact do their avatars have on participants' persuasive and instructional abilities?



BRAIN DIMENSIONS

Speaker: Nancy C. Andreasen M.D., Ph.D.

The Brain's Odyssey through Life: Development and Aging Across the Lifespan — Take a voyage and learn how the brain develops, matures, and ages. Neuroimaging tools chart the trajectory of brain changes and answer our questions. How much do environmental factors affect brain development? When does the brain become fully mature, and begin to age? Can we predict if an individual will age well? What can you do to protect your brain and minimize effects of aging? Get the facts to optimize brain health.

The Creative Brain: The Neuroscience of Genius — The capacity to be creative is a key attribute of the human brain. But we know little of the nature of creativity or its neural basis. We'll examine the issues: What is creativity? Is it related to intelligence? What causes creative insights to occur? What's the neurology of creative moments? How is creativity related to health/illness, especially mental illness? Can creativity be enhanced or nurtured? Does it run in families? Get the cutting-edge picture of the creative brain.

Venus vs. Mars or the Age of Androgyny? Gender and the Brain — How much of gender-based behavior and cognition arises from innate differences between men and women? Wade into the paradoxical and equivocal findings emerging from neuroscience and neuroimaging. For example, men and women have measurable differences in brain size, volume of gray matter and white matter, and rates of cerebral blood flow and yet are equivalent in intelligence. Men and women differ in cerebral blood flow in studies that examine aspects of social cognition. Some findings indicate gender-related vulnerability to brain diseases. We'll pore over these differences, their possible relationship to genes, and to the X chromosome. Gnarly stuff, this.



SCIENTIFIC AMERICAN TRAVEL

RATIONAL THOUGHT — AND NOT

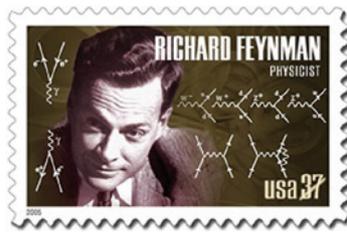
Speaker: Michael Shermer, Ph.D.

The Bermuda Triangle and Other Weird Things that People Believe — Should we prepare to deal with an energy vortex, time travel, aliens and UFOs, the lost continent of Atlantis, dark matter, black holes, and all manner of secret government experiments as we sail into the Bermuda Triangle? Join the unflappable Michael Shermer as he explains the legends and myths that have grown up around this area allegedly associated with the mysterious disappearance of ships and planes over the decades. Dr. Shermer will explain what really happens in the Bermuda Triangle, and having disposed of that topic, will elucidate many other mysteries such as UFOs and alien abductions, mind-reading and psychics who talk to the dead, reincarnation and life after death, out-of-body and near-death experiences, urban legends and satanic panics. Get the scoop on how the mind works to find patterns when none exist and imparts intentional agency to those patterns, leading *some* people to believe weird things.

Why Darwin Matters: Evolution, Intelligent Design, and the Battle for Science and Religion — Evolution happened, and the theory describing it is one of the most well-founded in all of science. Then why do half of all Americans reject it? There are religious and political reasons people fear evolution. Dr. Michael Shermer diffuses these fears by examining what evolution really is, how we know it happened, and how to test it. Get an insiders' guide to the evolution-creation debate. Dr. Shermer will show why creationism and Intelligent Design are not only bad science, they are bad theology, and why science should be embraced by people of all beliefs.

The Mind of the Market: Compassionate Apes, Competitive Humans, and Other Lessons from Evolutionary Economics — How did we evolve from ancient hunter-gatherers to modern consumer-traders? Why are people so irrational when it comes to money and business? Michael Shermer argues that evolution provides an answer to both of these questions through the new science of evolutionary economics. Learn how evolution and economics are both examples of complex adaptive systems. Along the way, Shermer answers provocative questions and poses more for your consideration, like how can nations increase trust within and between their borders, and what are the consequences of globalization? Get your evolutionary economics tools together.

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THE INQUIRING PHYSICIST

Speaker: Lawrence Krauss, Ph.D.

Quantum Man: Richard Feynman and Modern Science — Feynman, perhaps the greatest physicist of the last 60 years, left a legacy that governs work at the forefront of physics today. Find out about the man and his life. It took a man willing to break all the rules to tame a theory that broke all the rules.

Hiding in the Mirror: The Mysterious Allure of Extra Dimensions — We are fascinated by the idea that there is more out there than meets the eye. Scientists have long been fascinated by the possibility that there are more than three dimensions in nature. Come find out why.

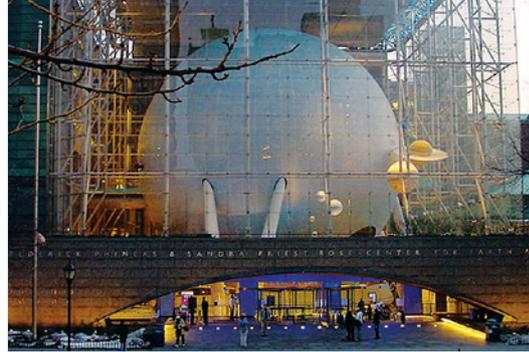
An Atom from the Caribbean — We are all Stardust. Every atom in our bodies came from inside a fiery nuclear furnace of a star, which exploded so that some of its atoms might one day make it to Earth. Hear the story of a single oxygen atom, in a glass of water on board ship, from the beginning to the end of the Universe.



ARCHAEOLOGY/ ANTHROPOLOGY

Speaker: Jerald T. Milanich, Ph.D.

Belle Glade Cultures — Secrets from 500 BC to AD 1700 — Perhaps the most remarkable earthworks constructed by the pre-Columbian Indians of the Eastern United States dot the old shoreline of Lake Okeechobee. Excavations reveal many secrets of these complex sites and the people who built them. The importance of the Belle Glade societies is reflected in the gold and silver artifacts found in their sixteenth and seventeenth century mounds. Yet the Belle Glade culture has remained totally unknown except to archaeologists. Dr. Milanich clues us in.



Optional tour price: \$395. Includes transportation, entrance fees, lunch at the Rose Center, cocktail reception and dinner at Scientific American headquarters. This tour is limited to 25 people.

SCIENCE IN NEW YORK CITY

Saturday, May 7, 2011 (optional)

Wake up in the city that never sleeps, as we start at 9am in the Rose Center for Earth and Space (above) at the American Museum of Natural History for a private insider's tour. Get the inside scoop on research being done at the Rose Center — with a behind-the-scenes tour of their telescope/optics labs; a spaceshow/journey to the stars in the Hayden Planetarium; a private 40-minute lecture about the Hubble Space Telescope from our host, Dr. Michael Shara; and a new perspective on space with the Scales of the Universe. Our five-hour day at the Rose Center includes a catered lunch. After our astronomy sojourn, we'll reconvene in lower mid-town Manhattan, at the Scientific American headquarters, for an early evening social reception/dinner with Scientific American staffers.

During our visit, the Curator of the Einstein exhibit, Michael M. Shara, Ph.D. will deliver the following lectures:

Einstein's Revolution — He was daring, wildly ingenious, passionately curious. He saw a beam of light and imagined riding it; he looked up at the sky and envisioned that space-time was curved.

Albert Einstein reinterpreted the inner workings of nature, the very essence of light, time, energy, and gravity. His insights fundamentally changed the way we look at the universe — and made him the most famous scientist of the 20th century.

We know Einstein as a visionary physicist, but he was also a passionate humanitarian and anti-war activist speaking out on global issues from pacifism to racism, anti-Semitism to nuclear disarmament. "My life is a simple thing that would interest no one," he once claimed. But in fact, his letters, notebooks and manuscripts tell a dramatically different story.

Einstein saw the universe as a puzzle, and he delighted in trying to solve its mysteries. All he needed to contemplate the cosmos was his most valuable scientific tool — his imagination.

10 Discoveries from the Hubble Space Telescope — In the 20 years it has been in orbit, Hubble has revolutionized our understanding of how the universe works. Images from the telescope have become iconic forms of modern art. And lurking in each image is new science. Dr. Shara will describe 10 remarkable discoveries made with the Hubble, and show how its images reveal something we've never seen or understood before.

Documenting Florida's Seminoles — Adventure Behind the Scenes — While houseboating in the Everglades in 1905, New York financier Anthony Weston Dimock and son Julian met Seminole Indians who had come from their isolated camps in the interior of South Florida to shop and trade. Julian, an accomplished photographer, set up his tripod and camera and began to take pictures. Through his lens he and his father would step into a new world, the world of the Seminole Indians. Over the next five years the Dimocks amassed an unprecedented photographic record of Seminole people and their surroundings. The photographs, recently rediscovered in the American Museum of Natural History's research library, and the Dimocks' adventures in southern Florida make for an amazing tale.

Archaeology of the Spanish Colonial Southeast U.S. After 1492 — By the time of the founding of Jamestown in the first decade of the 1600, Spanish St. Augustine was already up for urban renewal. Spain's sixteenth-century colonial activities in the Southeast and their impact on the American Indians who lived there are a fascinating and little-known story, now emerging through archaeological and archival research. The Spanish sailors and conquistadors who explored and colonized the Southeast all failed, some rather spectacularly. Impossibly lofty plans, poor knowledge of geography, and well established Native American groups all played a role. Join Dr. Milanich as he lays out the archaeological background of the early Spanish Southeast America.

