

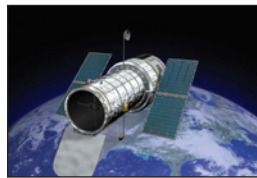


What awaits you in Alaska on Bright Horizons 14? The Great Land and Scientific American present legacies and frontiers for your enjoyment. Based on Celebrity Cruises' Infinity, roundtrip Seattle June 8-15th, 2012, we head up the Inside Passage and get the inside scoop on the Hubble Space Telescope, geospatial imaging, particle physics at CERN, and social psychology. Sail into a state of Native cultures, Gold Rush history, and rich, diverse habitats.

Powered by the midnight sun, surrounded by purple mountain majesty, explore the complex terrain of emotion and consciousness with Dr. John Cacioppo. Get details on the big picture of geospatial imaging with Dr. Murray Felsher. Catch up on particle physics at CERN with Dr. James Gillies. Get a first-hand account of life on the space station with astronaut Dr. Steven Hawley. Peer into the past and future of telescopic space exploration with Dr. Stephen Maran. Launch your Bright Horizons 14 fun with an optional pre-cruise sortie to the Museum of Flight in Seattle.

Connect to the science community on Bright Horizons 14. Inhale Alaska's unabashed outdoorsy spirit. Enjoy Native art and historic places. Sample unrivaled birdwatching. Glimpse bears on the beach and whales in the waves. Share glacier-watching and hot cocoa with a friend. Bring home the latest in planetary science, cognitive science, particle physics, geospatial imaging, and space exploration. Please join us!

Cruise prices vary from \$959 for an Interior Stateroom to \$3,999 for a Royal Suite, per person. For those attending our program, there is a \$1,475 fee. Government taxes and fees total \$464.65 per person. Gratuities are \$105 per person (a little more for Suite cabins). **For more info please call 650-787-5665 or email us at [Concierge@InSightCruises.com](mailto:Concierge@InSightCruises.com)**



### STEPHEN P. MARAN, PH.D.

#### Galileo To Hubble and Beyond

How do Galileo's mind-blowing first telescopic discoveries contrast with current knowledge of the same celestial phenomena, examined with 21st century telescopes and space probes? Both Galileo and Hubble Space Telescope focus on centers of revolution, moons, planets, and rings, and galaxies. Find out how 17th and 21st century optical astronomy compare and relate.

#### Mystery Forces in the Solar System

Astronomers have investigated puzzles and discrepancies noted in the paths of moving bodies, and discovered previously unknown celestial objects and astrophysical phenomena. While each mystery solved is just a footnote in space discovery, together they demonstrate the unforeseen benefits of scientific exploration. Get the details with Stephen Maran.

#### Through Time and Space With the Hubble Space Telescope

What is the significance of the Hubble Space Telescope? Join Dr. Maran for a look at the whats and hows, highs and lows of the Hubble Space Telescope. The epic story spans vision, disaster, innovation, and outstanding discovery, much of which was unforeseen when the Hubble project began. Listen in on missions accomplished and new beginnings afoot.

#### Exoplanets and Life in Space

My, how things have changed! For years astronomers largely denied the existence of exoplanets. Now astronomers find planets wherever they look. Explore the stunning contributions of NASA's planet-hunting Kepler mission to the search for exoplanets and Goldilocks zones where life could exist. Join the discussion about the possibilities and implications.



### STEVEN HAWLEY, PH.D.

#### The Legacies of the Space Shuttle

The Space Shuttle was technically, scientifically, and culturally transformational. Re-live the challenges, triumphs, and tragedies from 30 years of Space Shuttle operations from the perspective of a former astronaut and flight operations manager. Find out what China, Russia, and others are accomplishing in space, and explore potential directions for space exploration that may build on the Space Shuttle's legacies.

#### My Life with the Hubble Space Telescope (HST)

Dr. Steven Hawley was on hand when HST was deployed from Space Shuttle Discovery (STS-31), and on a record-setting Hubble maintenance mission (STS-82). Hear a first-hand account of how HST both revolutionized operations in Space and our understanding

of the Universe. From robotic arms to eyes on the Universe, gain an astronomer-astronaut's unique perspective on Hubble's place in science and technology.

#### Astromaterials and the Space Environment

Astromaterials are particles, ranging from rocks to microscopic dust, originating in outer space. Learn how analysis of specimens in NASA's astromaterials collection (including cosmic dust, solar wind, comet particles, asteroids, and meteorites) improves our understanding of the solar system's origins and processes that may have contributed to the start of life on the Earth. We'll also learn about man-made components of the space environment and how they constitute hazards to spaceflight.

#### Mars and the Search for Life

Until 15 years ago, the odds for life on Mars seemed small. A Martian meteorite's suggestion of life rekindled interest; subsequent exploration hints at a hospitable environment. Is Mars even the best place to look for life in our solar system? Find out in a look at prospects for past or present life on Mars and other discoveries shaping the search for extraterrestrial life.



### MURRAY FELSHER PH.D.

#### Observing a Changing World

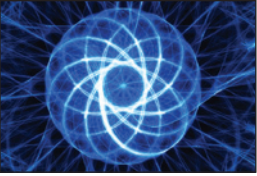
Geospatial imaging scientists use an array of remote sensing technologies to image the Earth from Space. Gain a basic understanding and appreciation of how sensor technology now aboard earth-orbiting spacecraft provides data and information about planet Earth. Join Dr. Felsher in a program which will test your assumptions, expand your horizons, and pique your curiosity.

Topics include:

- Natural disaster monitoring, assessment, and mitigation: flood plain inundation, tsunamis, earthquakes, and volcanic eruptions
- Renewable and non-renewable resource mapping: crop identification and yield, precision agriculture, and petroleum and mineral exploration
- Environmental applications: desertification and deforestation and oil spills
- Science applications: meteorology, oceanography, and hydrology
- Policy and political considerations: land use planning, coastal zone management
- "The View From Space: Planet Earth as an Artist's Palette", a look at terrestrial images from an aesthetic perspective



Dr. Steven Hawley



**JAMES GILLIES, PH.D.**

**Particle Physics: Using Small Particles to Answer The Big Questions**

Particle physics is the study of the smallest indivisible pieces of matter — and the forces that act between them. Join Dr. Gillies and catch up on the state of the art and challenges ahead as physicists continue a journey that started with Newton's description of gravity. We'll look at the masses of fundamental particles, dark matter, antimatter, and the nature of matter at the beginning time.

**The Large Hadron Collider: the World's Most Complex Machine**

The LHC is a machine of superlatives — a triumph of human ingenuity, possibly the most complex machine ever built. James Gillies traces particle physics technologies from the invention of particle accelerators in the 1920s to today, and then focuses on the LHC itself. You'll get a perspective on how these tools have allowed us to make phenomenal progress in understanding the Universe, and how they have revolutionized our everyday lives.

**Angels, Demons, Black Holes, and Other Myths: Demystifying the LHC**

Along with humankind's natural curiosity comes a fear of the unknown. As LHC's first beam day approached in 2008, a handful of self-proclaimed experts struck up an end-of-the-world tune — and the whole world knew they were there. Like its predecessors, the Large Electron-Positron Collider (LEP) and Relativistic Heavy Ion Collider (RHIC), the LHC never posed the slightest risk to humanity. However, the "dangerous scientist" has always made for a good story and that's something that Dan Brown exploited to the full when writing *Angels and Demons*. Dr. Gillies will cover the fact behind the fiction of *Angels and Demons* and black holes at the LHC, and share the behind-the-scenes on how CERN lived with the hype.



**JOHN CACIOPPO, PH.D.**

**The Architecture of Human Affect and Emotion: Journeys in Evaluative Space**

How can knowledge of the neural mechanisms of emotions lead to better decision making? Dr. John Cacioppo presents studies of the affect system that provide a surprising perspective on human feelings and emotions. We'll look at the complex terrain between stimulus, evaluation, and human behavioral response, finding more questions than answers — great food for thought.

**Human Nature and the Need for Social Connection: Loneliness and the Social Brain**

Is it fundamental human nature to serve selfish interests, or those of others? Explore how self-ish genes have sculpted innate capacities for social function. We'll talk about how loneliness evolved and relates to mental and physical well being. Learn about the complex work of social neuroscience and its implications for mind, behavior and health.

**Why Do I Like the Things I Like? A Look Under the Hood of Attitudes and Persuasion**

How can learning about how attitudes form and persuasion works lead you to make better decisions? Can cognitive science help you be more persuasive? Look under the hood of attitudes and persuasion and see that not all attitudes are created equal. Take home new insight on snap decisions, careful consideration, and why reasonable people may disagree.

**Why Is Consciousness Epiphenomenal, Or is It?**

Recent work in philosophy, psychology, psychiatry, and neuroscience questions the validity of the idea of human free will. Sort through provocative questions on consciousness, perception, thought, and behavior. We'll reflect on the legal and policy implications and gain an understanding of the mechanisms that orchestrate complex human behavior and behavioral flexibility.



**INSIDER'S TOUR OF THE MUSEUM OF FLIGHT**

If you love vapor trails in the wild blue yonder and the thrill of take off, join InSight Cruises in a day of fun and learning at the Museum of Flight at legendary Boeing Field near Seattle. Go behind the scenes with the Senior Curator. Explore The Boeing Company's original manufacturing plant. Get the big picture of aviation in the 3 million cubic-foot, six-story Great Gallery. An aviation historian will discuss the engineering and courage that took us from straight-wing planes to swept-wing jets. We'll do a refueling stop with a catered lunch provided by McCormick and Schmick's. After lunch, off we go into the Museum's Personal Courage Wing, followed by a talk on the development of aircraft carriers, and their technology and tactical use.

Please join us for an uplifting journey through aeronautical innovation. You may see the ubiquitous float planes of the great Northwest in a different perspective.

**Lectures (60 minutes each):**

**Jet Propulsion and Jet Airplane Design Development**

The design and development of the jet engine and the first airplanes to use them is an exciting and revealing story of personal determination in the face of bureaucratic and political obstacles before and during a World War. The remarkable transition from piston engine, straight winged airplanes to high speed swept wing jets is illustrated during this presentation. The skill and courage of the first pilots to probe the transonic speed region is summarized as a fascinating backdrop to what we take for granted as a part of modern life.

**Carriers: Naval Aviation at Sea**

The first attempt to take off from an aircraft carrier was in 1910, followed by a landing in 1911. This presentation will discuss the early development of aircraft carriers as well as catapults and arresting gear. Carriers played a significant role in the Pacific Theatre during World War II and in the ultimate success of the United States. Some of the most decisive carrier battles of the War will be discussed as well as what life is like aboard a "floating city".



The price is \$395 and includes all of the above (7 hours), an elegant lunch at The Museum of Flight, and roundtrip transfers to/from our Seattle hotel. This tour is limited to 25 people.



Visit inside the Air Force One jet used by Presidents Eisenhower, Johnson, Kennedy, and Nixon.