SCIENTIFIC AMERICAN™ Travel

BRIGHT HORIZONS™ 17

NORWEGIAN FJORDS, JULY 5–15, 2013

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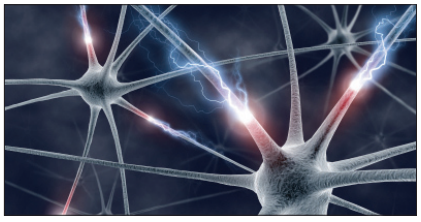
Slake your thirst for the latest in science, Viking style, on the Bright Horizons 17 cruise conference aboard Celebrity Cruises' Infinity, round trip from Harwich, England to the Norwegian fjords, July 5–15, 2013. Pack your curiosity and join a floating community of keen minds and quick wits voyaging into a landscape of epic beauty.

Venture into the weird, weird world of quantum mechanics. Go deep into the neurobiology of stress and aggression. Appreciate Viking ingenuity and adaptation. You'll visit the UNESCO World Heritage sites of Geiranger Fjord and Bryggen, enjoy scenic rail trips, and view glaciers and waterfalls.

Powered by the midnight sun, immerse yourself in essential Norway. Bring a friend and relax amidst epic beauty from sky to fjord. Refresh the spirit, savor Nordic cuisine, and open your mind. Visit www.InsightCruises.com/SciAm-17, contact concierge@insightcruises.com, or call (650) 787-5665.



Neurobiology

Speaker: Robert Sapolsky, Ph.D.

The Biology of Memory

Consider the biology of memory, from specific brain regions down to molecules and genes. Learn about memory's impressive features, wild inaccuracies, and failings in neurological diseases. Examine individual differences in memory skills and find out how to improve your own memory capacities.

Sushi and Middle Age

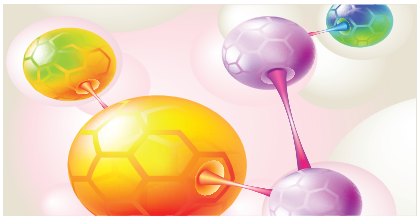
When was the last time you tried a strange type of food, explored the work of a new composer, or made a substantial change in appearance? As we age, we get less interested in novelty and increasingly crave the familiar. Examine the neurobiology and psychology underlying this age-related effect.

Humans: Are We Just a Bunch of Neurons?

Dr. Sapolsky conducts neurobiology research both in the lab and on wild baboons in East Africa. He'll consider human nature from these two perspectives. Are we just another primate on the continuum with the others, or arewe intrinsically special? Find out a biologist's answer.

The Biology of Violence

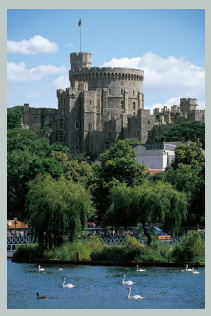
The biology of aggression is one of the most complicated subjects in behavioral biology, because we don't hate violence, just violence in the wrong context. Looking at neurobiology, Us/Them dichotomies, hormones, evolutionary biology, and game theory, we'll put the phenomenon of violence in a scientific context.



Chemistry

Speaker: Robert Hazen, Ph.D.

Genesis: The Scientific Quest for Life's Origins — Is life's origin an inevitable process throughout the cosmos, or is it an improbable accident, restricted to a few planets (or only one)? How does a geochemical world of oceans, atmosphere, and rocks transform into a living planet? Learn how scientists use experimental and theoretical frameworks to deduce the origin of life.



Hampton Court and Windsor Castle (July 2)

Visit two timeless treasures in an idyllic day trip that brings British history to life. Windsor Castle (left) and Hampton Court Palace are related, yet offer differing demonstrations of British monarchy, nationhood, and domesticity. It's good to be Queen, and the evidence is all about you at 1,000 year old Windsor Castle. Rubens, Rembrandt, and a remarkable collection of fine art envelope you in history. Go behind the scenes at the legendary seat of the House of Windsor. Hampton Court (also known as King Henry VIII's summer palace) is a place of royal passions and competing interests. Pomp and consequence, subterfuge and service inform its history. Our visit will put the juxtaposed Tudor and Baroque architecture, larger than life personalities, exquisite Chapel Royal, and magnificent gardens in historical context.

Cruise prices vary from $2,169 for an Interior Stateroom to $7,499 for a Royal Suite, per person. For those attending our Program, there is a $1,575 fee. Port charges are $235. Government taxes and an Insight Cruises service fee are $215 per person. Gratuities are $150 per person. Program subject to change.

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The Diamond Makers

Diamond forms deep in Earth when carbon experiences searing heat and crushing pressure. Decades ago, scientists learned how to mimic those extreme conditions in the laboratory to make synthetic diamonds. Learn the human drama and technological advances involved in producing this coveted gem and industrial tool.

The Story of Earth — Earth is a planet of frequent, extravagant change. Its near-surface environment has transformed over and over again over 4.5 billion years. Learn about research suggesting that Earth's living and nonliving spheres have co-evolved throughout its history.

Chemical Bonding — The solid, liquid, and gaseous materials around us depend on the elements involved and the chemical bonds that hold atoms together. By looking at the nature of ionic, metallic, and covalent bonds, you'll gain a new understanding of the workings of the world around you.

Quantum Physics

Speaker: Benjamin Schumacher, Ph.D.

Private Lives of Quantum Particles

Quantum systems exhibit all sorts of bizarre behavior, but much of it can be observed only in the strictest privacy, where systems are "informationally isolated" from the world. These are not accidental features of quantum theory, but inescapable facts about the microscopic world: Quantum physics is what happens when nobody is looking.

2π Is Not Zero (But 4π Is) — If you rotate any geometrical shape by 360 degrees (2π radians) about any axis, you will end up with exactly the same shape. But this fact is not true for quantum particles with spin. Learn how a rotation by 2π makes a big difference, and how it all comes down to a simple minus sign — probably the most important minus sign in all of physics. Enjoy quantum fun, demystified.

The Physics of Impossible Things

Using the laws of nature, we'll assess the possibility of science fiction's favorite phenomena and explore seemingly impossible things that are actually possible. You'll come away with an affirmation of the consistent logic of nature, and renewed wonder at real phenomena.

The Force That Isn't a Force

What makes a rubber band elastic? It's entropy, the microscopic disorder of its molecules. Entropy may help explain the most familiar and mysterious of the basic forces of nature: gravity. Explore the link between entropy and gravity, and gain fascinating insights into contemporary theoretical physics.

Archaeology

Speaker: Kenneth Harl, Ph.D.

From Old Europe to Roman Provinces

Explore the prehistoric foundations of Scandinavia and the Viking Age from ca. 3000 B.C. to 400 A.D. From Megalithic cultures to the arrival of Indo-Europeans, to Northern Bronze Age innovations and Celtic and Roman contributions, learn the unique environmental, cultural, and social context of the Vikings.

Viking Age Scandinavia

Using archaeology and literary sources, learn how the "great halls" emerged as the main focus of Scandinavian civilization. Find out how the development of towns facilitated trade and the transformation and technological advances of Scandinavian society.

Ships of the Viking Age

European history records the effectiveness of the fearsome Viking longship; find out what made it so. Learn about the multi-millennial evolution of the longship, from linden to oak, dugout to mast and sail, and understand the implications of Norse naval mastery over 300 years.

Viking Warfare — The Vikings' applied technologies led to three centuries of robust military and economic power for Scandinavia. Discover what factors made the Vikings accomplished warriors and learn what archaeological finds tell us about Viking exploration, settlement, and development of kingdoms.

Physics

Speaker: Lawrence Krauss, Ph.D.

The Triumph of the Higgs

The discovery of the Higgs boson was a technological feat that dwarfs the pyramids in complexity and audacity. The theoretical prediction of this particle is one of the singular triumphs of the human intellect. Learn how the Higgs has rewritten our understanding of our own origins and the future of the universe.

The Elusive Neutrino

Every second 100 billion neutrinos cross each square centimeter of your body, flying from the center of the sun through the Earth without pausing. Learn how these remarkable particles offer clues about the nature of the universe, exploding stars, the fundamental structure of matter, and other unsolved mysteries of physics.

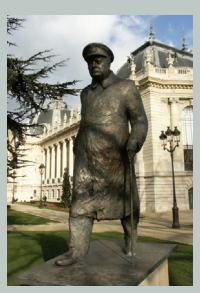
The Physics of Star Trek — Take a warp-speed journey through the Star Trek universe, which Dr. Krauss will use as a launching pad to offer a glimpse of the fascinating world of modern physics. The author of 'The Physics of Star Trek' will explain time travel, the Big Bang, and the search for extraterrestrial intelligence.

Why Is It So Hard to Go to Space?

The stars have beckoned to humans since we first looked up at the night sky. We set foot on the Moon over 40 years ago, so why haven't we gone farther by now? Learn about the daunting challenges facing human space exploration, from visiting Mars to missions to other stars.

SCIENTIFIC AMERICAN Travel HIGHLIGHTS

NORWEGIAN FJORDS
JULY 5–15, 2013



The Royal Observatory and the Churchill War Room/Museum (July 4)

Take the road less traveled in London, visiting two less well-known gems of the city, both uniquely fascinating and inspiring.

Courage, duty, shared sacrifice, and conviction are the foundation of the Churchill Cabinet War Rooms, hidden in plain sight in the heart of London, a scant 600 miles from Berlin. Step back in time and discover how Churchill and Britain's government functioned in secrecy in these quarters, from the Blitz to VE Day. The furnishings, maps, and ephemera are as they were on VE day, May 8, 1945. Hear the stories and imagine life under bombardment in the simple and inspiring environment of the Cabinet War Rooms.

Are you a fan of Google maps, GPS, or even Cutty Sark? Join us on a tour of maritime Greenwich, where our prime objective is visiting the Royal Observatory, home of the Prime Meridian of the World and Greenwich Mean Time. Stroll a deeply historic corner of London

significant in local, national, and international culture. See the Royal Observatory, the National Maritime Museum, the tea clipper Cutty Sark, and the Royal Naval College. Master the lingo of time: UT0, UT1, UTC, and GMT, and stand astride two hemispheres on the Prime Meridian.

Stonehenge and Bath (July 3)

Pass a day on the Salisbury Plains and Somerset Hills, absorbing the history of two spots with ancient cultural roots.

Mute, mysterious, and megalithic, Stonehenge calls to us across the millennia. We'll respond, walking the site to learn its geography, archaeological and astronomical background, and the key stone names. But those are just the facts — the memories and true meaning of Stonehenge will be up to you.

Bath beckons the seasoned traveler. See its honey-colored Bath limestone buildings, and explore its 2,000-year history as a place of relaxation and restoration. Plumb the nuances of Bath's fusion of architecture, culture, and history in a city with many echoes of the ancient world, while embodying the Georgian worldview.

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