

# HARVARD MUSEUMS OF SCIENCE & CULTURE

**SPRING 2015 PROGRAMS • EXHIBITS • CLASSES**

Collection of Historical Scientific Instruments  
Harvard Museum of Natural History  
Harvard Semitic Museum  
Peabody Museum of Archaeology & Ethnology



# One world. Four museums.


The Harvard Museums of Science & Culture (HMSC) present spring exhibitions and programs as varied and compelling as the Harvard collections from which they draw. Delve into a multi-disciplinary approach to wayfinding in the new exhibition, *Finding Our Way: An Exploration of Human Navigation*, opening in the Collection of Historical Scientific Instruments galleries in February. Explore the captivating world of island biodiversity in the Harvard Museum of Natural History's new exhibition, *Islands: Evolving in Isolation*, opening in April. Attend lectures given by noted scholars, policymakers, and authors on topics such as the origins of Maya civilization, evolution, arms and armor, Egyptian catacombs, fish diversity, elephant conservation, and the critical role of natural history collections. And inspire future explorers by taking advantage of the wide array of programs and classes for kids and families. Come see the world, in four museums.

- **Collection of Historical Scientific Instruments**
- **Harvard Museum of Natural History**
- **Harvard Semitic Museum**
- **Peabody Museum of Archaeology & Ethnology**

# HMSC

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Free parking is available at the 52 Oxford Street Garage for all events marked with a . Not applicable to classes or exhibitions.

### Images on front cover (clockwise from top left)

#### **Citrine**

Citrine is the yellow variety of quartz. This 800-carat specimen with 257 facets was cut with a custom-made faceting unit specifically designed for it. On view in the Earth & Planetary Sciences Gallery of the Harvard Museum of Natural History.

Minas Gerais, Brazil

Mineralogical & Geological Museum MGM 1491

#### **Sun Pendant**

Silver pendant, stamped sun figure with human face, rays extending from center.

Oceania/Philippines

Peabody Museum of Archaeology & Ethnology PM 13-9-70/85302

#### **Astronomical Compendium (sundial detail)**

Made in France in 1567, this pocket-sized instrument is the Renaissance equivalent of the smartphone. It has devices for finding time by the sun, moon, and stars; for knowing the phases of the moon, tides, compass direction, and weather forecast; as well as a surveying quadrant, gazetteer, and perpetual calendars. On view in the Putnam Gallery of the Collection of Historical Scientific Instruments.

Collection of Historical Scientific Instruments 7377

#### **Solar Divinity (detail)**

Detail from Doorjamb of Ramesses II. Egypt (Karnak, Temple of Amun) Dynasty 19, reign of Ramesses II, 1279-1212 BC. Sandstone. Gift of heirs of John Lowell. On view in the Harvard Semitic Museum exhibition, *From the Nile to the Euphrates: Creating the Harvard Semitic Museum*.

Harvard Semitic Museum 1916.31

## THE CRETACEOUS-TERTIARY MASS EXTINCTION

### What Really Killed the Dinosaurs?

Mark Richards, Professor of Earth and Planetary Science, University of California at Berkeley



About 66 million years ago, 70 percent of all the species that existed at the time, including the non-avian dinosaurs, became extinct in an apocalypse widely thought to have been caused by a meteor or comet impact on Mexico's Yucatán Peninsula. At approximately the same time, a series of volcanic eruptions in Western India produced torrents of lava that discharged large amounts of carbon dioxide and sulfur gas into the atmosphere. Mark Richards will review these remarkable events and explain a radical new theory suggesting they may be causally related. He will also discuss how ongoing research is shedding new light on the true cause(s) of the Cretaceous-Tertiary mass extinction.

Lecture. Free and open to the public. **HMNH**  
 Tuesday, February 3, 6:00 pm • Geological Lecture Hall, 24 Oxford St. ©  
 Presented in collaboration with the Department of Earth and Planetary Sciences, Harvard University

## THE ART OF WAYFINDING

John Huth, Donner Professor of Science, Department of Physics and Co-director of the Science Program, Academic Ventures at the Radcliffe Institute, Harvard University



Today we can access myriad technologies to get from one place to another, but how did our ancestors find their way? On what knowledge, environmental clues, and instruments did they rely? John Huth, author of *The Lost Art of Finding Our Way*, will discuss early systems of wayfinding used by cultures around the world—from Norse and Arab explorers to Inuit and Polynesian voyagers—highlighting the skills they used to successfully travel by land and sea. He will demonstrate how our ability to navigate is both intrinsic and adaptive and provide suggestions on how to avoid ever getting lost.

Lecture and Book Signing. Free and open to the public. **CHSI**  
 Thursday, February 12, 6:00 pm  
 Visit website for location: [www.hmnh.harvard.edu](http://www.hmnh.harvard.edu) ©  
 Presented in collaboration with the Radcliffe Institute for Advanced Study

*Finding Our Way: An Exploration of Human Navigation*, an exhibition at the Collection of Historical Scientific Instruments, will be open following the lecture until 9:00 pm.

## WHALE CONSERVATION AND THE FUTURE OF THE OCEANS

Joe Roman, Sarah and Daniel Hrdy Fellow in Conservation Biology, Harvard University  
 Fellow at the Gund Institute for Ecological Economics, University of Vermont

Whales have long been valued as a source of oil and whalebone. Treated as a commodity throughout history, they are increasingly recognized for their complex forms of communication, even culture, and the ecological role they play in the ocean. Joe Roman will discuss the history and future of whales in the world's oceans, drawing from historical archives, DNA analyses, ecological studies of whale carcasses in the deep sea, and the effects of whale fecal plumes on ocean productivity. He will explain why great whales are essential to the welfare of marine ecosystems.

Lecture and Book Signing. Free and open to the public. **HMNH**  
 Tuesday, February 17, 6:00 pm • Geological Lecture Hall, 24 Oxford St. ©



## THE ORIGINS OF MAYA CIVILIZATION

### New Insights from Ceibal

Takeshi Inomata, Professor and Agnese Nelms Haury Chair  
 School of Anthropology, University of Arizona  
 Daniela Triadan, Associate Professor, School of Anthropology, University of Arizona

In the 1960s, Gordon Willey and a team of Harvard archaeologists led the investigation of Ceibal, a Maya site in Guatemala. Their research revealed that Ceibal was a very early settlement that predated the cities constructed at the height of Maya civilization. Recent excavations in Ceibal directed by Takeshi Inomata and Daniela Triadan have produced exciting new findings, including the discovery of what is considered to be the earliest ceremonial complex in the Maya lowlands, dating to 950 BCE. Inomata and Triadan will discuss these new discoveries and what they reveal about the origins of Maya culture and society.

Gordon R. Willey Lecture and Reception. Free and open to the public. **PMAE**  
 Thursday, February 19, 6:00 pm • Geological Lecture Hall, 24 Oxford St. ©  
 Presented in collaboration with the Museum of Science, Boston

Visit *Maya: Hidden Worlds Revealed*, a new exhibition at the Museum of Science, Boston. Attend the World Treasures Lecture Series, co-sponsored by the Peabody Museum of Archaeology & Ethnology. Lecture tickets may be purchased in advance at [mos.org/events](http://mos.org/events).

*The Thrill of the Find: Murals and Mysteries of the Maya*  
 Wednesday, January 21, 7:00 pm, Museum of Science, Boston

*Crops, Water, and Climate Change: What Can We Learn from the Maya?*  
 Wednesday, February 11, 7:00 pm, Museum of Science, Boston





## I ♥ SCIENCE

Embrace your love of science! Explore fossils of long-extinct animals. Try your hand at sketching a mammal, excavating a mock dinosaur dig, or discovering life in a rotting log. Meet a live scorpion and tarantula. Bring a rock, mineral, or shell to be identified by members of the Boston Mineral Club or the Boston Malacological Club. Talk with scientists and graduate students studying topics ranging from tiny insects to dinosaurs. This event is appropriate for children and adults of all ages.

Special Event. Regular museum admission rates apply. **HMNH**

Saturday, February 21, 9:00 am-4:00 pm • Harvard Museum of Natural History, 26 Oxford St. ©



## NATURAL HISTORY COLLECTIONS AND EVOLUTION

James Hanken, Professor of Biology, Department of Organismic and Evolutionary Biology Curator in Herpetology; Alexander Agassiz Professor of Zoology; and Director, Museum of Comparative Zoology, Harvard University



Billions of plant and animal specimens are found in natural history collections around the world. The result of nearly 250 years of scientific investigation, discovery, and inventory of living and fossil organisms, these collections provide an irreplaceable record of the history and diversity of life on Earth and are fundamental to understanding its evolution. James Hanken will discuss the value of natural history collections to science and society—and why they are indispensable to contemporary studies of climate change and biological conservation.

Evolution Matters Lecture Series. Free and open to the public. **HMNH**

Tuesday, February 24, 6:00 pm  
Geological Lecture Hall, 24 Oxford St. ©

Series supported by a generous gift from Drs. Herman and Joan Suit

## THE REVOLUTION IN PLANT EVOLUTION

Pamela Soltis, Distinguished Professor and Curator, Florida Museum of Natural History University of Florida

Today's digital technologies enable museums to “unlock” their cabinets and share their treasures online. Pamela Soltis will discuss the way in which access to digital data and images of natural history collections is becoming a game changer in the understanding of plant evolution. From enabling novel research on plant genetics, to highlighting the roles plants play in nature and how they respond to climate change, museum collections are a key resource, particularly when studying plants that are rare, hard to collect, endangered, or extinct.

Evolution Matters Lecture Series. Free and open to the public. **HMNH**

Thursday, March 5, 6:00 pm • Geological Lecture Hall, 24 Oxford St. ©  
Series supported by a generous gift from Drs. Herman and Joan Suit



## NORTH AMERICA'S SHALE GAS RESOURCES Energy and Environmental Perspectives

John H. Shaw, Chair, Department of Earth and Planetary Sciences; Harry C. Dudley Professor of Structural and Economic Geology; and Professor of Environmental Science and Engineering, School of Engineering and Applied Sciences, Harvard University

Over the last decade, natural gas extracted from shale rock formations (shale gas) has become an important source of energy in North America. These abundant natural gas resources offer tremendous economic potential and are reshaping the landscape of energy production, including fossil, nuclear, and renewable energy options. Natural gas is also the lowest-emission fossil energy option available today. However, like other energy options, shale gas development has potential adverse impacts on our environment. John Shaw will discuss where and how shale gas resources are found, the geologic processes responsible for their formation, and the economic and environmental impacts associated with their extraction and use.

Lecture. Free and open to the public. **HMNH**

Tuesday, March 10, 6:00 pm • Geological Lecture Hall, 24 Oxford St. ©



## VOLCANIC WINTER, POPULATION BOTTLENECKS, AND HUMAN EVOLUTION

Stanley H. Ambrose, Professor of Anthropology, University of Illinois at Urbana-Champaign



The eruption of the Mount Toba supervolcano in the Indonesian island of Sumatra 74,000 years ago brought about an era of severe environmental degradation that decimated populations of Neanderthals and modern humans. Archaeological evidence suggests that modern humans survived this era by creating cooperative intergroup social networks and behaving like tribes. Neanderthals, on the other hand, behaved more like primate troops, living in small, closed territories with limited intergroup interaction. Stanley Ambrose will discuss the behaviors that contributed to the competitive advantage of modern humans and the demise of Neanderthals.

2015 Hallam L. Movius, Jr. Lecture and Reception

Free and open to the public. **PMAE**

Thursday, March 12, 6:00 pm • Geological Lecture Hall, 24 Oxford St. 

## WRITTEN IN STONE


### Reading Earth's Library of Planetary History

Andrew H. Knoll, Fisher Professor of Natural History, Departments of Organismic and Evolutionary Biology and Earth and Planetary Sciences, Harvard University



We live on a mature planet shaped by four billion years of evolution and environmental change. But what was Earth like in its youth and adolescence? To find out, Andrew Knoll travels to remote locations in search of rocks that reveal the deep history of Earth and the life it supports. Focusing on 600–800 million-year-old rocks exposed on the Arctic island of Spitsbergen, Knoll will discuss the importance of documenting and analyzing ancient sedimentary rocks, highlighting what they can tell us about the evolution of the earliest living organisms and the planet's early environmental transitions.

Evolution Matters Lecture Series. Free and open to the public. **HMNH**

Tuesday, March 24, 6:00 pm • Geological Lecture Hall, 24 Oxford St. 


Series supported by a generous gift from Drs. Herman and Joan Suit

## THE ALLURE OF COLLECTING ARMS AND ARMOR

Donald J. LaRocca, Curator, Department of Arms and Armor  
The Metropolitan Museum of Art

From dynastic armories and curiosity cabinets to Gothic Revival castles, private collections, and modern museums, armor and weapons have been methodically collected, studied, and preserved for their artistic and historical importance, beginning in the sixteenth century and continuing to the present day. This lecture will survey that legacy, particularly as it relates to the genesis of the major collections of arms and armor in leading European and American museums today, concluding with the growth and development of the Department of Arms and Armor in The Metropolitan Museum of Art over the past century.

Lecture. Free and open to the public. **PMAE**

Thursday, March 26, 6:00 pm • Geological Lecture Hall, 24 Oxford St. 

*Arts of War: Artistry in Weapons across Cultures*, an exhibition at the Peabody Museum of Archaeology & Ethnology, will be open following the lecture until 9:00 pm.



## GO WILD! CONNECTING KIDS WITH NATURE

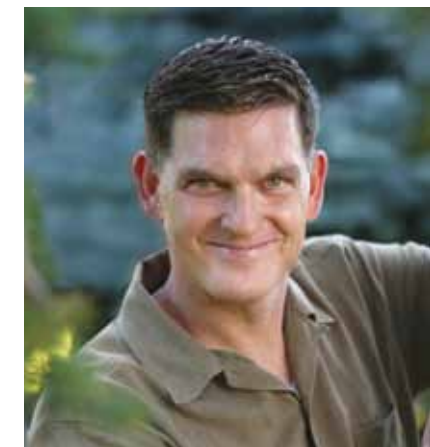
Scott Sampson, Vice President of Research and Collections and Chief Curator  
Denver Museum of Nature & Science

Connecting people, especially children, with nature is crucial to their health and the health of places they call home. In the age of Google and iPhones, however, finding a balance between technology and the natural world is increasingly difficult. In this interactive presentation, Scott Sampson—host of the hit PBS KIDS television series, *Dinosaur Train*—will tap into the many secrets revealed in his new book, *How to Raise a Wild Child*, to offer inspirational advice. Dr. Scott will also share engaging activities aimed at hooking kids on nature and helping grown-ups become highly successful nature mentors. It's time to get outside and go wild!

Special Event and Book Signing

Regular museum admission rates apply. **HMNH**

Saturday, March 28, 2:00 pm • Geological Lecture Hall, 24 Oxford St. 





## SCIENCE IN POLICY AND POLITICS

The Honorable Jane Lubchenco, U.S. Science Envoy and University Distinguished Professor and Advisor in Marine Studies, Oregon State University



Jane Lubchenco was the first woman to be appointed Under Secretary of Commerce for Oceans and Atmosphere and Administrator of the National Oceanic and Atmospheric Administration (NOAA). Drawing on her experience at the helm of NOAA from 2009 to 2013, Lubchenco will discuss how this government agency advances and utilizes scientific research on weather, climate, and oceans to guide its services and improve environmental stewardship in the United States. She will also highlight new scientific advances that are transforming attitudes, behaviors, and policies that affect ocean health and the future of humanity and discuss her role as the Department of State's first U.S. Science Envoy for the Ocean.

Prather Lecture. Free and open to the public. **HMNH**  
Monday, March 30, 6:00 pm • Geological Lecture Hall, 24 Oxford St.   
Presented in collaboration with the Department of Organismic and Evolutionary Biology, Harvard University


## LIFE AT COLONIAL HARVARD

### The Archaeological Evidence

Diana Loren, Director of Academic Partnerships and Museum Curator and Patricia Capone, Museum Curator, Peabody Museum of Archaeology & Ethnology



Harvard University's 1650 charter founded a multicultural educational setting when it committed the new institution "to the education of the English and Indian Youth of this Country in knowledge and godliness." The Harvard Yard Archaeology Project contributes to renewing that commitment by seeking deeper knowledge of seventeenth-century Harvard College and the Native American and English students. Join Diana Loren and Patricia Capone in a presentation of the project's findings to date, including printing type from the first printing press in the British colonies and the results of the fourth excavation in Harvard Yard, conducted in 2014.


Lecture. Free and open to the public. **PMAE**  
Tuesday, March 31, 6:00 pm • Geological Lecture Hall, 24 Oxford St.   
*Digging Veritas: The Archaeology and History of the Indian College and Student Life at Colonial Harvard*, an exhibition at the Peabody Museum of Archaeology & Ethnology, will be open following the lecture until 9:00 pm.

## EVOLUTION IN A VORTEX

### Fish Diversity in the Lower Congo River

Melanie L. J. Stiassny, Axelrod Research Curator of Fishes, American Museum of Natural History

Some of the most spectacular cataracts, falls, and gorges on Earth are found in the lower Congo River, in the heart of central Africa, near the twin Congolese capitals of Kinshasa and Brazzaville. This stretch of the river is also home to over 300 different species of fish, many with unique adaptations—including bizarre morphologies—that enable them to survive in an environment with intense rapids. Based on her many years collecting, documenting, and studying the fish in the lower Congo River, Melanie Stiassny will discuss the river's unique hydrological and geographical characteristics and their role in driving the evolution and diversification of its exceptional fish fauna.

Evolution Matters Lecture Series. Free and open to the public. **HMNH**  
Thursday, April 9, 6:00 pm • Geological Lecture Hall, 24 Oxford St.   
Series supported by a generous gift from Drs. Herman and Joan Suij



## ETHNOBOTANY IN THE 21ST CENTURY

Michael J. Balick, Vice President for Botanical Science, The New York Botanical Garden

For more than four decades, Michael Balick has studied the relationships between plants and people—the field known as ethnobotany—in the Amazon Valley, Central and South America, the Middle East, Southeast Asia, and most recently in Micronesia and Melanesia. In this lecture he will discuss the relevance of working with indigenous cultures to document their knowledge of medicinal plants and evaluate their potential for broader applications. He will also highlight some of the medicinal plants used by non-Western cultures, such as ashwagandha and maca, which are becoming available and popular in the West and are discussed in his most recent book, *Rodale's 21st Century Herbal: A Practical Guide for Healthy Living Using Nature's Most Powerful Plants*.

Lecture and Book Signing. **PMAE HMNH**  
Tuesday, April 14, 6:00 pm • Geological Lecture Hall, 24 Oxford St. 



## UNDERSTANDING WARFARE

### An Evolutionary Approach

Michael L. Wilson, Associate Professor, Department of Anthropology and Department of Ecology, Evolution, and Behavior, University of Minnesota



Warfare is a nearly universal trait of human societies that has influenced the evolution of human societies since at least the dawn of history. By some definitions, warfare is uniquely human; no other species engages in armed combat using manufactured weapons. But in other respects, human warfare bears much in common with intergroup aggression in a range of species, from ants to chimpanzees. Michael Wilson will discuss how an evolutionary perspective on warfare can help shed light on why people fight and what they can do to make war less likely to occur.

Lecture. Free and open to the public. **PMAE HMNH**  
Thursday, April 16, 6:00 pm • Geological Lecture Hall, 24 Oxford St.

## ON THE WING

### A Celebration of Birds in Music and Spoken Word



Join HMNH for a special afternoon of music and poetry that celebrates birds as symbols of freedom, beauty, and wonderment. Listen to original songs composed by Andrew List and performed by mezzo-soprano Krista River and pianist George Lopez, enjoy bird-inspired poetry by Mary Pinard, and learn about local birds from Wayne Petersen, director of the Massachusetts Audubon's Important Bird Area Program. *On the Wing* offers an original way to appreciate birds' unique vocalizations and behavior and to reflect on bird conservation and ecological stewardship.

Special Event. Free and open to the public. **HMNH**  
Saturday, April 18, 2:00 pm • Holden Chapel, Harvard Yard   
Space is limited. Please RSVP to [lectures@hmsc.harvard.edu](mailto:lectures@hmsc.harvard.edu)

## COLLECTORS AND DEALERS

### The Trade of Egyptian Antiquities

Kim Ryholt, Professor of Egyptology and Director, The Papyrus Carlsberg Collection and Project, University of Copenhagen, Denmark

Many of the Egyptian objects in Western museums were acquired during the heyday of the antiquities trade market in Egypt from the 1880s to 1930s. The scale of this trade was staggering, but its mechanics and networks are poorly known. Kim Ryholt will discuss his most recent research on the trade's geography, dealers, and legal issues, as well as the role that Egyptian museums and Egyptologists played in the acquisition of objects. He will also highlight how the antiquities trade and acquisition policies have played a decisive role in dictating the research agendas of Egyptologists.

Lecture. Free and open to the public. **HSM**  
Tuesday, April 21, 6:00 pm • Yenching Auditorium, 2 Divinity Ave.   
*From the Nile to the Euphrates: Creating the Harvard Semitic Museum*, an exhibition at the Harvard Semitic Museum, will be open following the lecture until 9:00 pm.



## ISLANDS: NATURAL LABORATORIES OF EVOLUTION

Jonathan B. Losos, Monique and Philip Lehner Professor for the Study of Latin America Department of Organismic and Evolutionary Biology and Curator in Herpetology, Museum of Comparative Zoology, Harvard University

Tahiti, Bermuda, Madeira, Bali. Everyone loves islands, but no one loves them more than an evolutionary biologist. From the dwarf elephants of Crete to the carnivorous caterpillars of Hawaii and the snaggle-fingered aye-aye of Madagascar, islands present a cornucopia of biodiversity. Darwin drew much of his inspiration from island stopovers on his fabled *Beagle* voyage, as did Alfred Russel Wallace on his own perambulations through the East Indies. Ever since Darwin and Wallace jointly proposed their theory of evolution by natural selection, biologists have returned to islands to gain fresh insights. Jonathan Losos will discuss the relevance of islands to our understanding of evolution and its processes.

Lecture. Free and open to the public. **HMNH**  
Thursday, April 23, 6:00 pm • Geological Lecture Hall, 24 Oxford St.   
Members' opening and exhibition preview will follow the lecture (see back flap for event and registration details).





## EXPLORING NEUROBIOLOGY AND MUSIC

Ariel Mitnick, Rainer Crosett, and Alan Toda-Ambaras, Project LENS  
 Dr. David Silbersweig, Chair, Department of Psychiatry and Institute for the Neurosciences at Brigham and Women's/Faulkner Hospitals



The Harvard Museums of Science & Culture will present a special evening of music and science featuring Project LENS, a performance collaborative that seeks to reveal connections between music and a wide variety of topics as eclectic as evolution, 3D printing, humor, law, and birdsong. Join Project LENS members Ariel Mitnick, Rainer Crosett, and Alan Toda-Ambaras, along with neuroscientist David Silbersweig, to explore the field of neurobiology. Together they will present a TalkThread that reveals an idea, theory, or story; and a MusicThread spun of selections from the classical repertoire.

Special Event. Free and open to the public. **HMNH**  
 Friday, April 24, 7:00 pm • Broad Institute, 415 Main Street, Cambridge

## WARRIOR MOVES

Martial arts demonstrations from Asia, Europe, and South America will be offered in conjunction with the Peabody Museum's exhibition, *Arts of War: Artistry in Weapons across Cultures*. Drop in for demonstrations by Harvard student athletes, practice some moves, and learn the ways of warriors. Invited athletes will represent taekwondo, archery, capoeira, kendo, fencing, Shotokan karate, aikido, and wushu.

Family Event. Regular museum admission rates apply. **PMAE**  
 Saturday, April 25, 1:00–3:00 pm • Peabody Museum of Archaeology & Ethnology, 11 Divinity Ave. ©



## THE DOG CATACOMBS OF ANUBIS

Paul Nicholson, Professor in Archaeology, Cardiff School of History, Archaeology and Religion, Cardiff University, United Kingdom

The necropolis of Saqqara in Egypt is the burial site of kings, commoners, and animals considered sacred by the Egyptians: bulls, cows, ibises, falcons, baboons, cats, and dogs. The Catacombs of Anubis in North Saqqara contain the mummified remains of approximately eight million animals, primarily dogs. Based on the findings of a recent full excavation of the site and the careful examination of the dog mummies found there, Paul Nicholson will discuss the sacred role that dogs played in the cult of Anubis—the dog-headed deity associated with the afterlife—and what their mummification reveals about ancient Egyptian culture.



Lecture. Free and open to the public. **HSM**  
 Tuesday, April 28, 6:00 pm • Yenching Auditorium, 2 Divinity Ave. ©  
*From the Nile to the Euphrates: Creating the Harvard Semitic Museum*, an exhibition at the Harvard Semitic Museum, will be open following the lecture until 9:00 pm. Presented in collaboration with the New England Chapter of the American Research Center in Egypt

## MUSICAL HUES

Like the Peabody Museum, the Dudley World Music Ensemble has a distinctly international focus. Enjoy live music drawn from cultures around the world while exploring the Peabody Museum's impressive galleries. Wander freely or let the ensemble's music spark your imagination and inspire you to draw what you hear. Art supplies will be available.

Special Event. Regular museum admission rates apply. **PMAE**  
 Friday, May 1, 3:00–4:00 pm  
 Peabody Museum of Archaeology & Ethnology, 11 Divinity Ave. ©





## TEETH AND HUMAN EVOLUTION

Tanya M. Smith, Associate Professor  
Department of Human Evolutionary Biology, Harvard University



Modern humans and our closest-living ape relatives differ in developmental and reproductive biology, as well as in lifespans, but evolutionary anthropologists do not know when these distinctive characteristics evolved. It might seem that our development is invisible in the fossil record, but much can be learned from the faithful records of birth and growth embedded in teeth. Tanya Smith will discuss how she studies fossil teeth with state-of-the-art technologies to gain *virtual* access to these records and share what this research reveals about differences between Neanderthals and *Homo sapiens* and about our evolution over the past seven million years.

Lecture. Free and open to the public. **PMAE**  
Tuesday, May 5, 6:00 pm  
Visit website for location: [www.hmsc.harvard.edu](http://www.hmsc.harvard.edu) ⓘ

## THE HALF-WILD, HALF-CAPTIVE ELEPHANTS OF BURMA

Vicki Constantine Croke, Author and Journalist



In 1920, James Howard Williams began working in the teak logging camps of Burma (now Myanmar). Mesmerized by the intelligence, character, and humor of the great animals that hauled logs through the remote jungles, he became a gifted “elephant *wallah*” who championed humane treatment for the animals. The elephants led a double life, working alongside men for five hours a day, then living in the forest much like wild elephants for the remaining hours. Vicki Croke will discuss her best-selling book *Elephant Company: The Inspiring Story of an Unlikely Hero and the Animals Who Helped Him Save Lives in World War II*, which chronicles Williams’ life. She will also provide an overview of elephants in Myanmar today, highlighting why conservationists worry about their future.

Lecture and Book Signing. Free and open to the public. **HMNH**  
Thursday, May 7, 6:00 pm • Geological Lecture Hall, 24 Oxford St. ⓘ  
Presented in collaboration with the Harvard Animal Studies Project

## LOST WITHOUT LONGITUDE

Alyssa Goodman, Professor of Astronomy, Harvard University  
Research Associate, Smithsonian Institution

One of the most important scientific challenges in early eighteenth-century Europe was the search for a reliable way to determine longitude at sea. Using a free interactive program called “WorldWide Telescope,” Alyssa Goodman will demonstrate how various historic and modern systems for measuring longitude at sea work (or fail to work), highlighting key life-saving techniques to find one’s position using the motions of stars and moons, as well as magnetic anomalies. Go back in time and discover what it was like to find one’s way before the era of GPS devices and smartphones.

Lecture. Free and open to the public. **CHSI**  
Thursday, May 14, 6:00 pm • Visit website for location: [www.hmsc.harvard.edu](http://www.hmsc.harvard.edu) ⓘ  
*Finding Our Way: An Exploration of Human Navigation*, an exhibition at the Collection of Historical Scientific Instruments, will be open following the lecture until 9:00 pm. Presented in collaboration with the Radcliffe Institute for Advanced Study



## SUMMER SOLSTICE CELEBRATION 2015 At the Harvard Museums of Science & Culture

Save the date! Enjoy hands-on activities, dance performances, live music, exhibitions at the four HMSC museums, and much more. For all ages.

Special Event. Open to the public. **HMSC**  
Sunday, June 21 • Visit website for event details: [www.hmsc.harvard.edu](http://www.hmsc.harvard.edu) ⓘ



# UPCOMING EXHIBITS

## FINDING OUR WAY

### An Exploration of Human Navigation

OPENING THURSDAY, FEBRUARY 12. COLLECTION OF HISTORICAL SCIENTIFIC INSTRUMENTS

This exhibition explores the biological underpinnings of human navigation and its technological history. Mounted specimens from the Museum of Comparative Zoology tell the story of the human navigational instinct, deeply rooted in animal biology. Scale models of sailing canoes and nautical stick charts from the Peabody Museum of Archaeology & Ethnology demonstrate how expert navigators, using a relatively simple toolkit, successfully negotiated the complex archipelagos of the southern Pacific. Drawing from the extraordinary Collection of Historical Scientific Instruments, the evolution of European celestial navigation tools, from the quadrant and astrolabe to the cross staff and sextant, is examined. The exhibition displays navigational aids used by fourteenth- to nineteenth-century mariners—including compasses and dead-reckoning tools, as well as nautical atlases, maps, piloting books, and astrological texts borrowed from the Harvard Map Collection and the Houghton Library archives.

Supported by generous gifts from the Radcliffe Institute for Advanced Study and the David P. Wheatland Charitable Trust

See related lecture and book signing on page 2: *The Art of Wayfinding*, Thursday, February 12, 6:00 pm



## ISLANDS: EVOLVING IN ISOLATION

OPENING SATURDAY, APRIL 25  
HARVARD MUSEUM OF NATURAL HISTORY

With bizarre woodpecker-like primates, dwarf humans, and flightless birds over nine feet high, islands are havens for some of the most unusual living creatures on our planet. Why are islands such hotspots of biodiversity and how does evolution work within these isolated pockets of life? *Islands: Evolving in Isolation* is a new Harvard Museum of Natural History exhibition that unravels the mysteries of island biodiversity and evolution. Packed with examples from around the globe, the exhibition brings together an enormous array of plant and animal specimens, including lizards, giant pitcher plants, hissing cockroaches, Galápagos tortoises, New Guinea birds of paradise, Malagasy lemurs, a remarkable Komodo dragon from the Indonesian islands, and a rare fossil cast of *Homo floresiensis*, a relative of modern humans. An exhibition full of surprises, *Islands: Evolving in Isolation* will highlight some of the latest research and discoveries made by Harvard scientists.



Supported by the National Science Foundation and a generous gift from Dr. John Freedman AB '84

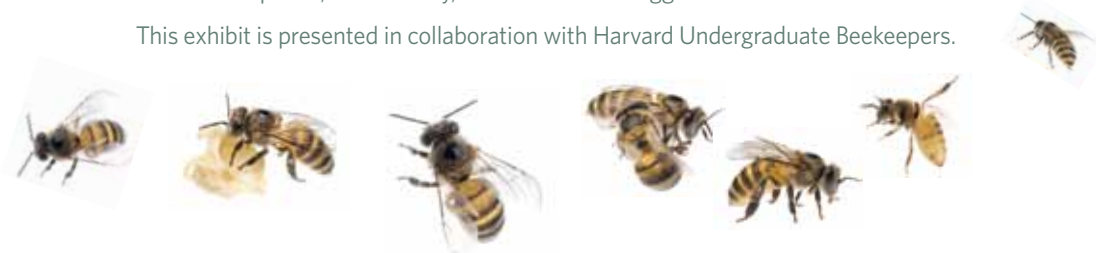
See related lecture on page 11: *Islands: Natural Laboratories of Evolution*, Thursday, April 23, 6:00 pm

## HONEYBEES IN ACTION

OPENING IN MAY 2015. HARVARD MUSEUM OF NATURAL HISTORY

From a human perspective, honeybees are certainly one of the most important insects in the world. In addition to pollinating one-third of the food crops consumed by humans, bees have also helped people satisfy their sweet tooth cravings through honey production for centuries. Honeybees are highly social, fascinating colonial insects. This spring, the Harvard Museum of Natural History is welcoming new residents with the installation of an active honeybee observation hive in *Arthropods: Creatures that Rule*. This exhibit will give visitors a close-up look at the daily life of a colony, as the bees collect pollen, make honey, and care for their eggs and larvae.

This exhibit is presented in collaboration with Harvard Undergraduate Beekeepers.





## KIDS' DRAWING CLASSES

Drawing classes offer kids the opportunity to learn drawing techniques and examine the museum's collections more closely. Classes are taught by educator and artist Erica Beade.

### CAPTURING IMAGINARY ANIMALS WITH PENCIL AND PAPER

Ages 9-13  
Saturday, February 28, 2:00-3:30 pm  
\$25 members/\$30 nonmembers **HMNH**

### ANIMAL ARTISTS: A FOUR-WEEK COURSE

Ages 7-11  
Four Tuesdays: March 10, 17, 24, 31; 3:40-5:00 pm  
\$80 members/\$95 nonmembers **HMNH**

### CAPTURING INSECTS WITH PENCIL AND PAPER

Ages 9-13  
Saturday, March 21, 2:00-3:30 pm  
\$25 members/\$30 nonmembers **HMNH**

### CAPTURING PREHISTORIC ANIMALS WITH PENCIL AND PAPER

Ages 9-13  
Saturday, April 11, 2:00-3:30 pm  
\$25 members/\$30 nonmembers **HMNH**

## FAMILY CLASSES

A learning experience for adults and children (grades K-5) to share. Classes are taught by HMNH science educator Amy Gunzelmann.

### EXPLORING SCIENCE TOGETHER: DINOSAURS!

Saturday, January 24, 10:30 am-12:00 pm  
\$10 members/\$20 nonmembers **HMNH**

### EXPLORING SCIENCE TOGETHER: MINERALS!

Saturday, March 14, 10:30 am-12:00 pm  
\$10 members/\$20 nonmembers **HMNH**

### EXPLORING SCIENCE TOGETHER: PLANTS!

Saturday, May 2, 10:30 am-12:00 pm  
\$10 members/\$20 nonmembers **HMNH**



## ADULT CLASSES

All skills levels are welcome!

### THE ART OF DRAWING BIRDS

Erica Beade, Artist and Educator  
Saturday, January 10, 9:30 am-12:00 pm  
\$35 members/\$40 nonmembers **HMNH**

### HERPS! THE AMAZING WORLD OF REPTILES AND AMPHIBIANS

Joe Martinez, Instructor  
Saturday, February 7, 9:30 am-12:00 pm  
\$35 members/\$40 nonmembers **HMNH**

### DRAWING FROM THE IMAGINATION

Erica Beade, Artist and Educator  
Saturday, February 28, 9:30 am-12:00 pm  
\$35 members/\$40 nonmembers **HMNH**

### BIODIVERSITY IN THE AVIAN WORLD

Allison Shultz and Maude Baldwin, Instructors  
Saturday, March 7, 9:30 am-12:00 pm  
\$35 members/\$40 nonmembers **HMNH**

### THE ART OF BOTANICAL DRAWING: A FOUR-WEEK COURSE

Erica Beade, Artist and Educator  
Four Saturdays: April 4, 11, 18, 25; 9:30-11:30 am  
\$95 members/\$110 nonmembers **HMNH**

### SKETCHING TREES

Erica Beade, Artist and Educator  
Mount Auburn Cemetery, Cambridge  
Saturday, May 9, 9:00-11:00 am  
\$35 members/\$40 nonmembers **HMNH**




All classes are held at 26 Oxford Street unless otherwise indicated. Advance registration is required. For easy online registration, visit: [www.hmsc.harvard.edu/education](http://www.hmsc.harvard.edu/education)

Visit the HMNH website for additional learning opportunities at the museum, including an extensive selection of educational videos: [www.hmnh.harvard.edu](http://www.hmnh.harvard.edu)

## Harvard Museums of Science & Culture

Information: 617-496-1638 [www.hmsc.harvard.edu](http://www.hmsc.harvard.edu)

See individual websites for holiday closings

Free parking is available at the 52 Oxford Street Garage for all events marked with a . Not applicable to classes or exhibitions.

### Collection of Historical Scientific Instruments

1 Oxford Street, Cambridge, MA 02138

Information: 617-495-2779

[chsi.harvard.edu](http://chsi.harvard.edu)

### PUTNAM GALLERY

Monday–Friday 11:00 am–4:00 pm

### SPECIAL EXHIBITIONS GALLERY

See website for hours

### Harvard Museum of Natural History

26 Oxford Street, Cambridge, MA 02138

Information: 617-495-3045

[www.hmnh.harvard.edu](http://www.hmnh.harvard.edu)

Open daily 9:00 am–5:00 pm

### PLAN YOUR VISIT

The four HMSC museums are located within a ten-minute walk from Harvard Square. Traveling by public transportation is strongly recommended, as parking near the museums is limited. Please visit the individual museum websites for directions and information on hours, admission, public transportation, parking, and accessibility, as well as additional information on museum programs, exhibits, and special events.

### Harvard Semitic Museum

6 Divinity Avenue, Cambridge, MA 02138

Information: 617-495-4631

[www.semiticmuseum.fas.harvard.edu](http://www.semiticmuseum.fas.harvard.edu)

Monday–Friday 10:00 am–4:00 pm

Sunday 1:00–4:00 pm

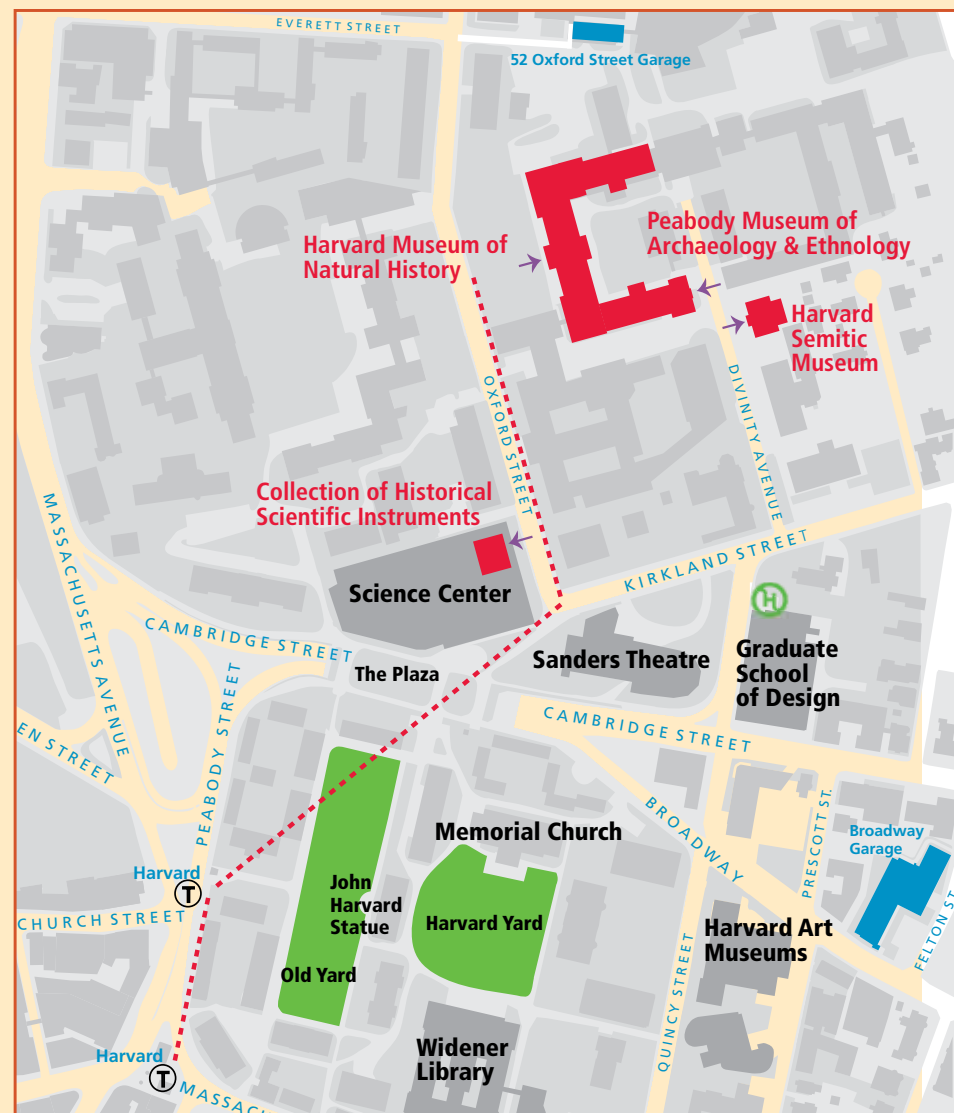
### Peabody Museum of Archaeology & Ethnology

11 Divinity Avenue, Cambridge, MA 02138

Information: 617-496-1027

[www.peabody.harvard.edu](http://www.peabody.harvard.edu)

Open daily 9:00 am–5:00 pm



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**HMSC**  
**HARVARD MUSEUMS OF SCIENCE & CULTURE**  
Harvard University  
26 Oxford Street, Cambridge, MA 02138



Travel the world...experience the people, cultures, and natural history of Earth's most remote and beautiful areas. Learn more about the HMSC Travel Program at [travel.hmsc.harvard.edu](http://travel.hmsc.harvard.edu)