



# AMERICAN MUSEUM OF NATURAL HISTORY

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## **AMERICAN MUSEUM OF NATURAL HISTORY AWARDED OVER \$6 MILLION FROM NASA TO VISUALIZE CURRENT EXPLORATION OF THE COSMOS**

### **INTERACTIVE OPEN SOURCE SOFTWARE TO BE SHOWCASED SEPTEMBER 12 AT OSIRIS-REX HAYDEN PLANETARIUM SPECIAL EVENT**

The science visualization team at the [American Museum of Natural History](http://www.amnh.org) has started work on an open source software platform to visualize dynamic data from current NASA mission activities and scientific observations. Called OpenSpace, the five-year project is funded by NASA under a cooperative agreement at nearly \$6.3 million and will provide users with the ability to convert massive amounts of data about celestial objects, phenomena, and space missions into striking visualizations in real time. At a Hayden Planetarium special event on September 12, an alpha version of OpenSpace will simulate [OSIRIS-REx](http://www.nasa.gov/osiris-rex), a mission scheduled to launch this month to retrieve an asteroid sample and bring it to Earth.

The Museum's Hayden Planetarium currently navigates its [Digital Universe](http://www.amnh.org/digital-universe) dataset – the most complete, scientifically accurate three-dimensional atlas of the universe – with Uniview, software that was specifically developed to visualize its static data. OpenSpace will go beyond Uniview's capability by visualizing dynamic data sets in real time. Based on the success of 2015 pilot efforts to visualize the New Horizons mission to Pluto and space weather simulation data generated by NASA Goddard's Community Coordinated Modeling Center, OpenSpace will be developed to allow unparalleled viewing of dynamic data in 3-D, allowing one to fly through the universe and observe processes and specific objects from different views. OpenSpace will also facilitate science, technology, engineering, and math (STEM) education and improve scientific literacy by engaging students, teachers, researchers, and the general public in NASA's space explorations through innovative educational programming.

"While our use of the Digital Universe has provided an illuminating view of the known cosmos, OpenSpace aims to bring this 'seeing is believing' approach a step further," said Carter Emmart, Director of Astrovisulisation at the Museum, who will be presenting the immersive

OSIRIS-REx visualization. “Whether it’s dynamically simulating NASA missions, fostering scientific collaboration through an open source design, or synchronizing presentations with planetariums across the globe, OpenSpace hopes to take a sense of discovery that is usually reserved for those in mission control and make it a shared one.”

The Museum will be partnering with institutions including the NYU Tandon School of Engineering, the University of Utah’s Scientific Computing and Imaging Institute, and Linköping University in Sweden to develop OpenSpace. In addition, a network of leading science institutions will work on associated programming to engage diverse audiences. The project will also draw on a model similar to the Museum’s annual hackathon, where developers, designers, and data scientists create software prototypes and apps to solve a specific problem over a span of 24 hours. The alpha version of OpenSpace is already available for [download](#), and more information on the September 12 OSIRIS-REx program can be found [here](#).

The Museum is one of [27 institutions](#) that has entered into cooperative agreements with NASA to move forward STEM education projects and programs.

#### **AMERICAN MUSEUM OF NATURAL HISTORY (AMNH.ORG)**

The American Museum of Natural History, founded in 1869, is one of the world’s preeminent scientific, educational, and cultural institutions. The Museum encompasses 45 permanent exhibition halls, including the Rose Center for Earth and Space and the Hayden Planetarium, as well as galleries for temporary exhibitions. It is home to the Theodore Roosevelt Memorial, New York State’s official memorial to its 33rd governor and the nation’s 26th president, and a tribute to Roosevelt’s enduring legacy of conservation. The Museum’s five active research divisions and three cross-disciplinary centers support approximately 200 scientists, whose work draws on a world-class permanent collection of more than 33 million specimens and artifacts, as well as specialized collections for frozen tissue and genomic and astrophysical data, and one of the largest natural history libraries in the world. Through its Richard Gilder Graduate School, it is the only American museum authorized to grant the Ph.D. degree and the Master of Arts in Teaching degree. Annual attendance has grown to approximately 5 million, and the Museum’s exhibitions and Space Shows can be seen in venues on five continents. The Museum’s website and collection of apps for mobile devices extend its collections, exhibitions, and educational programs to millions more beyond its walls. Visit [amnh.org](http://amnh.org) for more information.

#### **Hours**

The Museum is open daily, 10 am-5:45 pm. The Museum is closed on Thanksgiving and Christmas.

### **Admission**

Museum admission is free to all New York City school and camp groups.

Suggested general admission, which supports the Museum's scientific and educational endeavors and offers access to the Museum's 45 halls including the Rose Center for Earth and Space, is \$22 (adults) suggested, \$17 (students/seniors) suggested, \$12.50 (children) suggested. All prices are subject to change.

The Museum offers discounted combination ticket prices that include suggested general admission plus special exhibitions, giant-screen 2D or 3D film, and Space Shows.

- Museum Plus One includes one special exhibition, giant-screen 2D or 3D film, or Space Show: \$27 (adults), \$22 (students/seniors), \$16 (children)
- Museum Supersaver includes all special exhibitions, giant-screen 2D or 3D film, and Space Show: \$35 (adults), \$28 (students/seniors), \$22 (children)

Visitors who wish to pay less than the suggested Museum admission and also purchase a ticket to attend a special exhibition, giant-screen 2D or 3D film, or Space Show may do so on-site at the Museum. To the amount they wish to pay for general admission, they add \$25 (adults), \$20.50 (students/seniors), or \$13.50 (children) for a Space Show, special exhibition, or giant-screen or 3D film.

### **Public Information**

For additional information, the public may call 212-769-5100 or visit the Museum's website at [amnh.org](http://amnh.org).

### **Follow**

Become a fan of the Museum on Facebook at [facebook.com/naturalhistory](https://www.facebook.com/naturalhistory), and follow us on Instagram at [@AMNH](https://www.instagram.com/AMNH), Tumblr at [amnhnyc](https://www.tumblr.com/amnhnyc), or Twitter at [twitter.com/AMNH](https://twitter.com/AMNH).

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