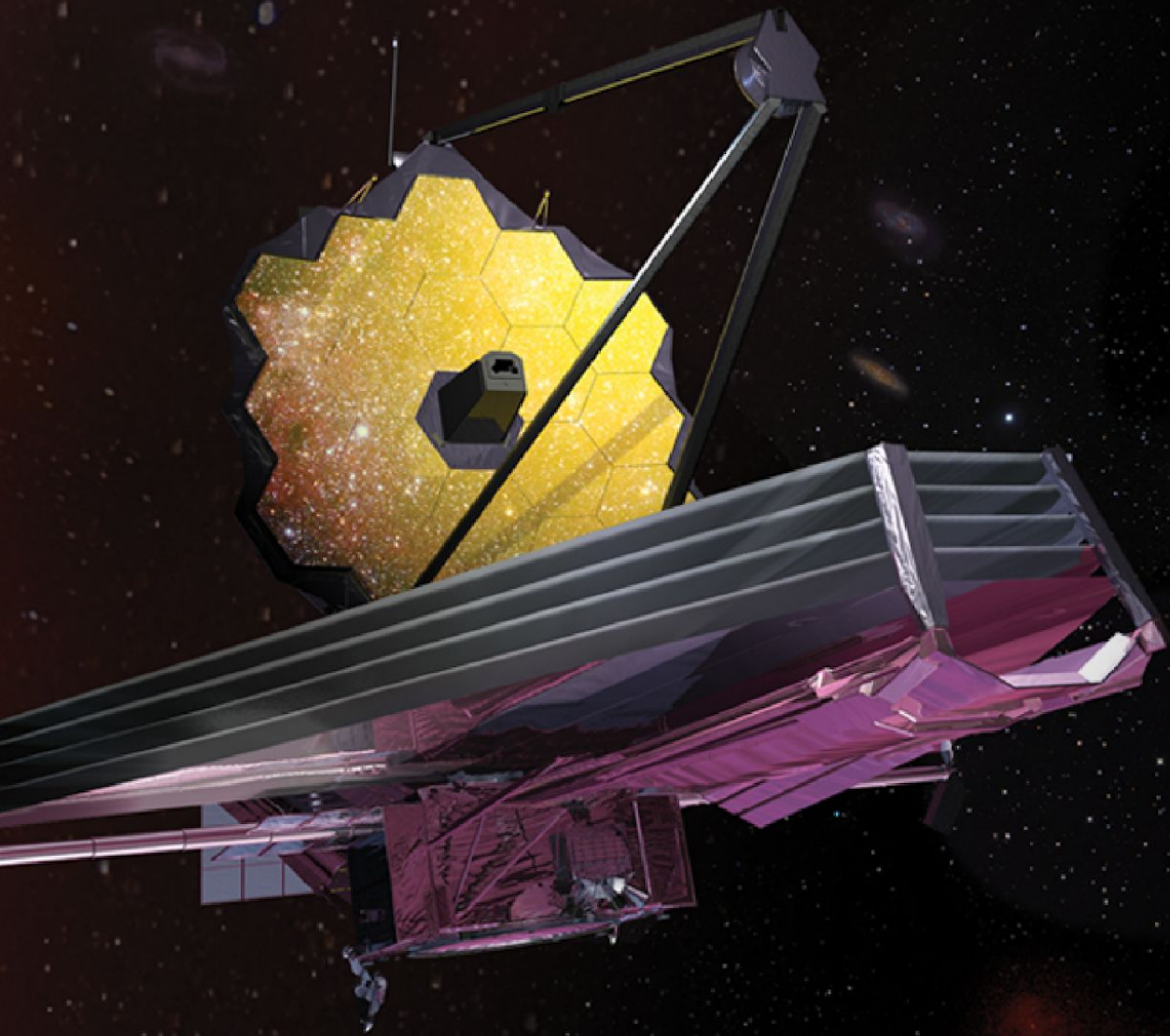


Unfolding the Universe with the James Webb Space Telescope: Combining Art, Science, and Technology for Public Outreach

National Aeronautics and
Space Administration

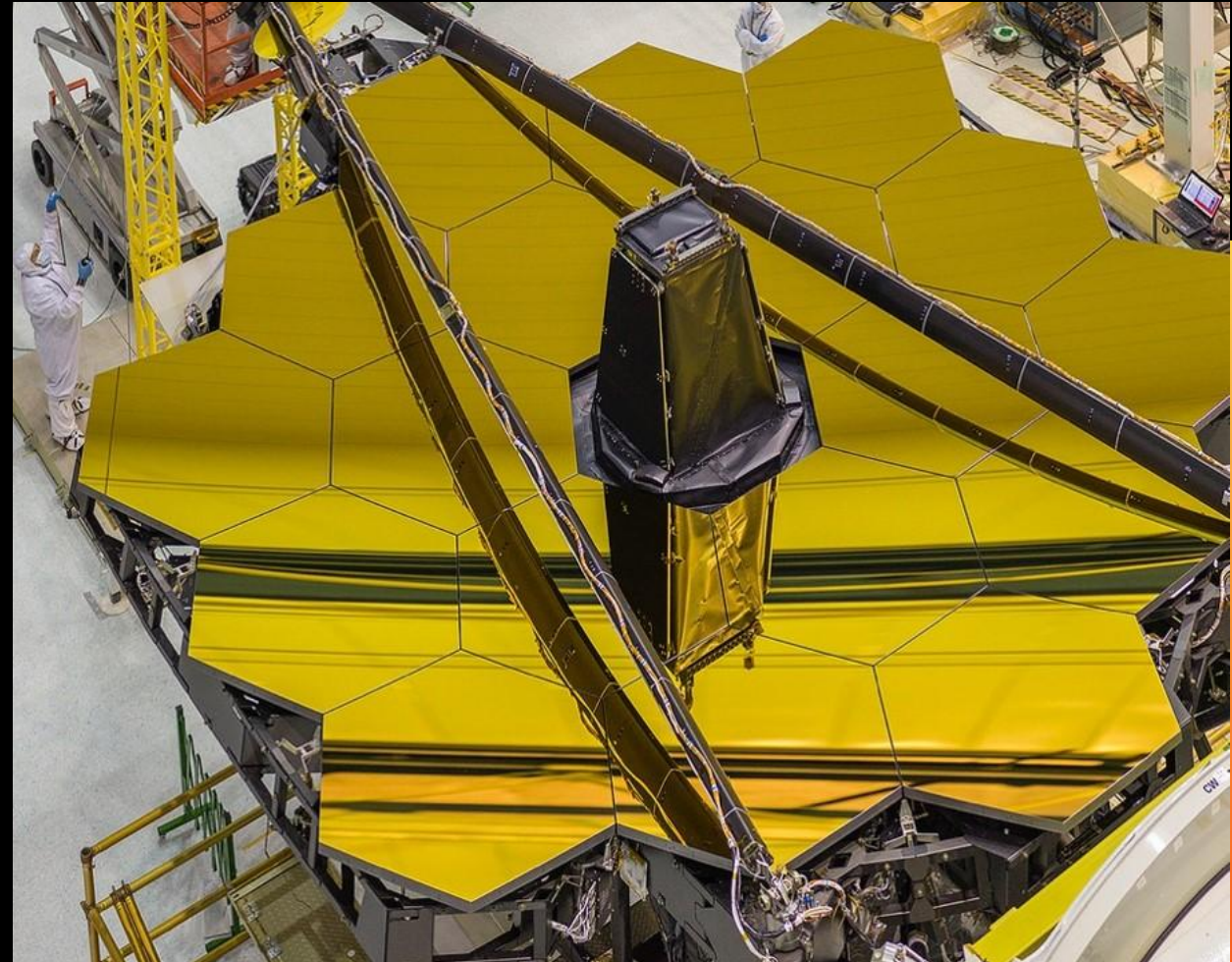


Ashley Zelinskie
Ashley Zelinskie Studio LLC

Elaine Stewart and Maggie Masetti
NASA Goddard Space Flight Center

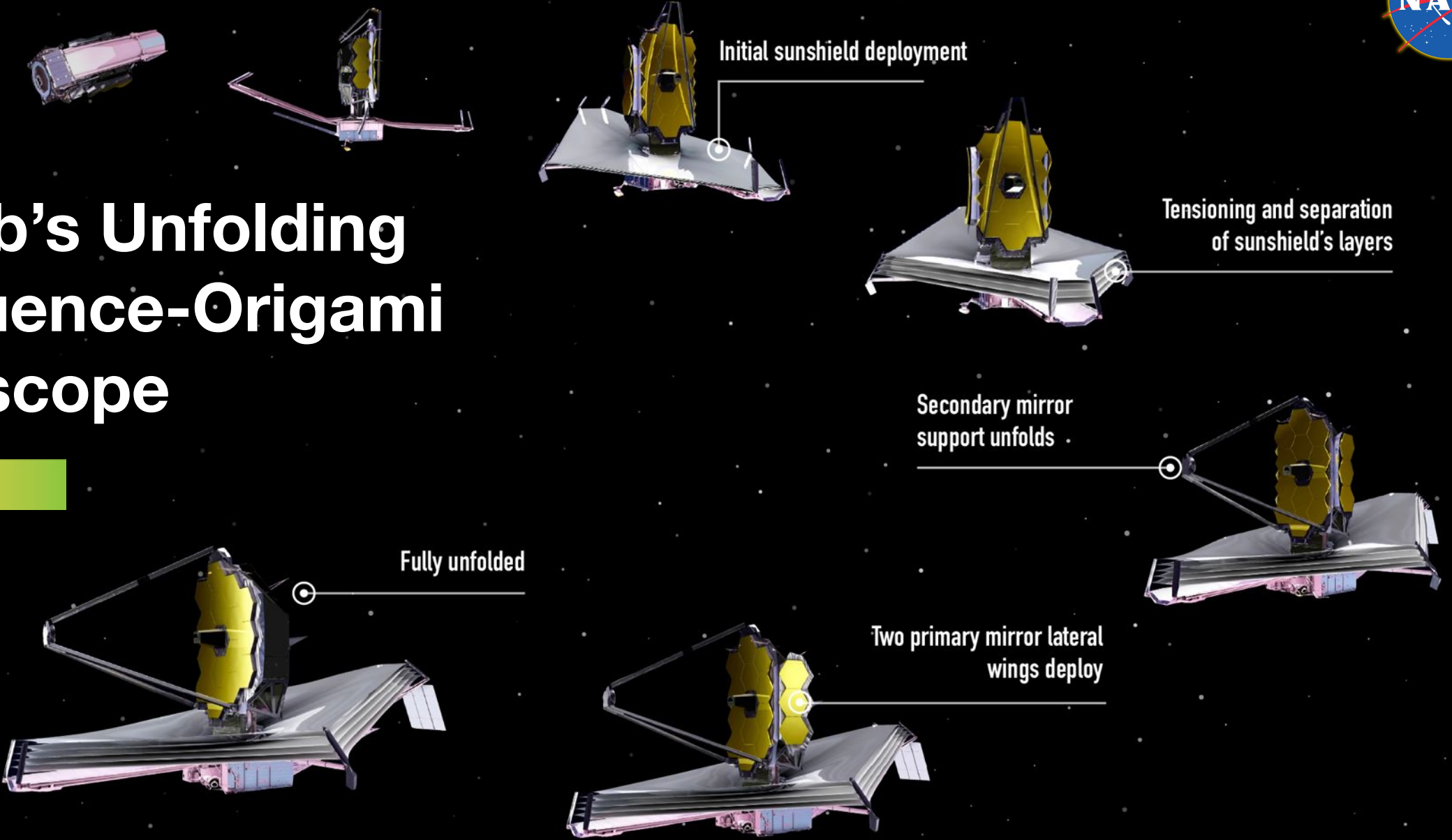
Webb Outreach through Art

NASA's James Webb Space telescope falls neatly into the nexus of art and science





Webb's Unfolding Sequence-Origami Telescope



Webb + Art 2016/2017 - and Beyond



18 artists, representing a broad range of artistic media and styles, chosen to view the Webb telescope at Goddard Space Flight Center.

JWST Art + Science exhibit ran from March 3, 2017 until an extended close date of July 5, 2017. Over fiscal year 2017, the Goddard Visitor Center had 45,602 visitors, an average of 3800 visitors a month.

Unfolding the Virtual Universe-Public submissions!



Campaign invitation: almost 40,000 views with 18,000 during first month
~300 artworks submitted and multiple video compilations
Still engaging thousands of views each month!

Exploration



Exploration by Ashley Zelinskie (Image by Ashley Zelinskie)



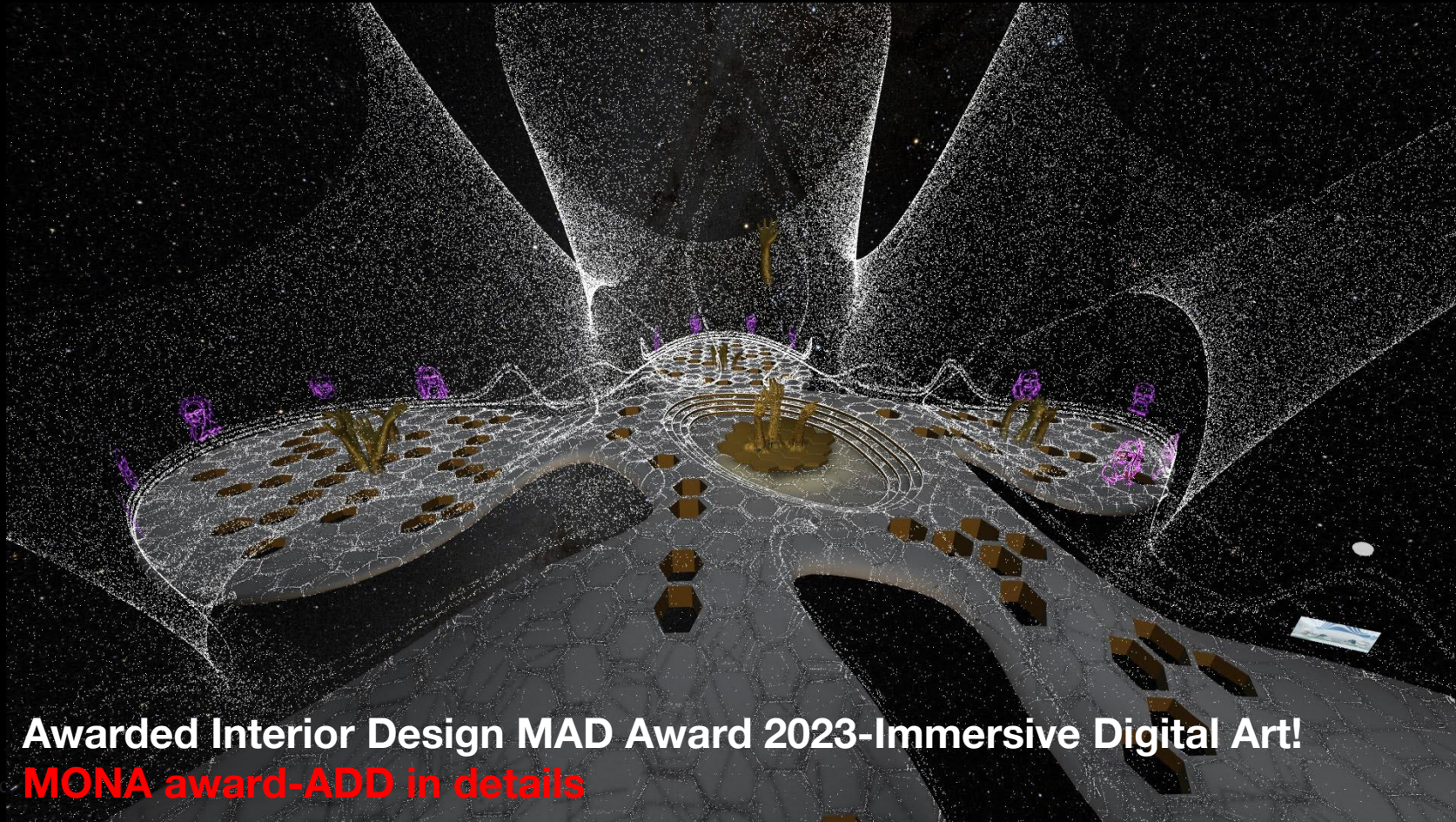
Scanning the arm of Dr. Amber Straughn for “Exploration” using an Artec Eva structured-light 3D scanner. (Image by Ashley Zelinskie)

Unfolding the Virtual Universe-Outreach during the COVID Pandemic 2021



Zelinskie worked with the award-winning team at Metaxu Studio to create her first virtual reality artwork, which includes interactive interviews with members of the Webb team, and a 3D animated sculpture, essentially a virtual version of the piece created for the 2017 event at NASA Goddard

Unfolding the Virtual Universe-Added benefit over alternative outreach



Awarded Interior Design MAD Award 2023-Immersive Digital Art!

MONA award-ADD in details

VR format allowed for improved connection and participation versus alternative COVID-19 pandemic outreach.

Exploration of VR space

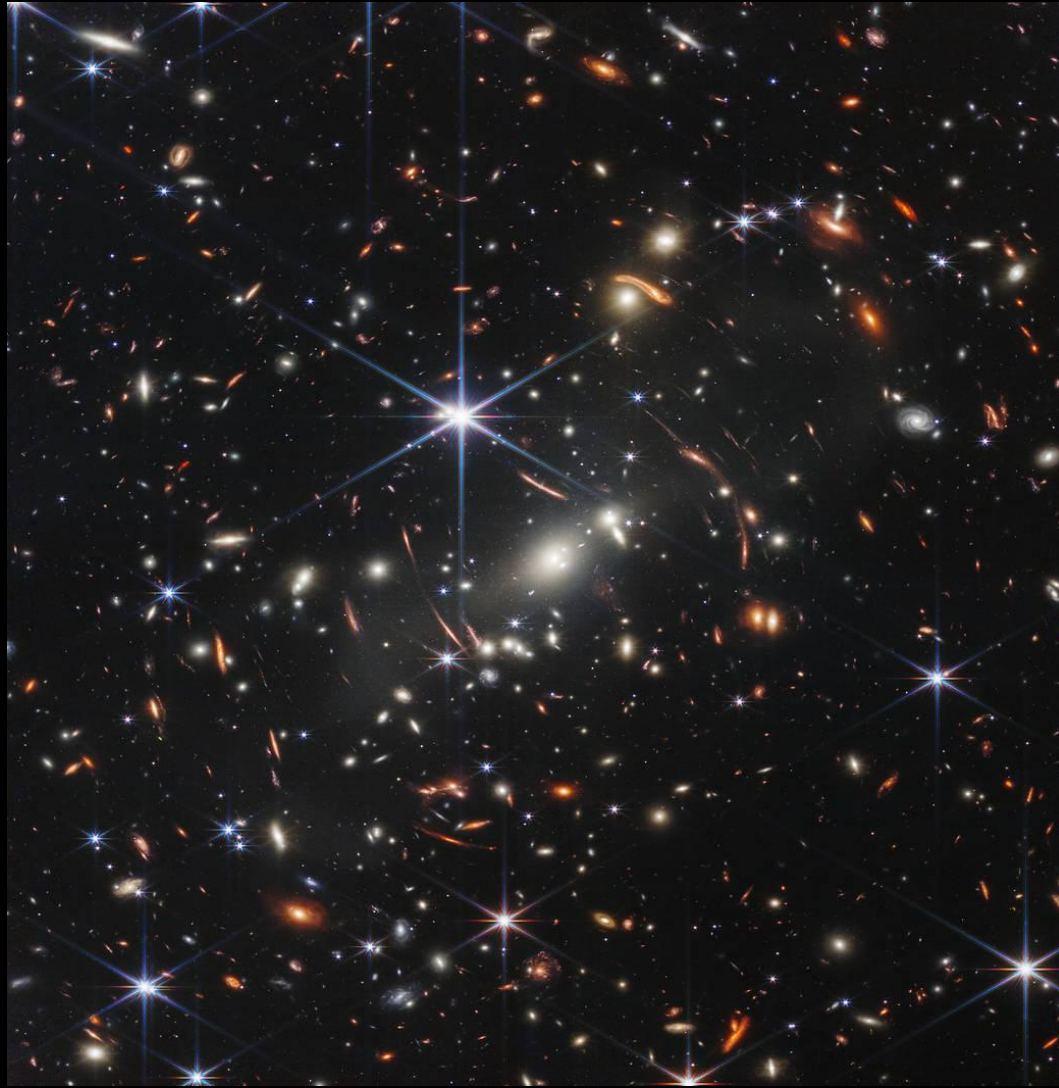
Interaction through voice, chat, and inclusive for participants that do not want video on

**Webb Telescope First Images of the Unseen Universe
2022-Deep Field SMACS 0723**

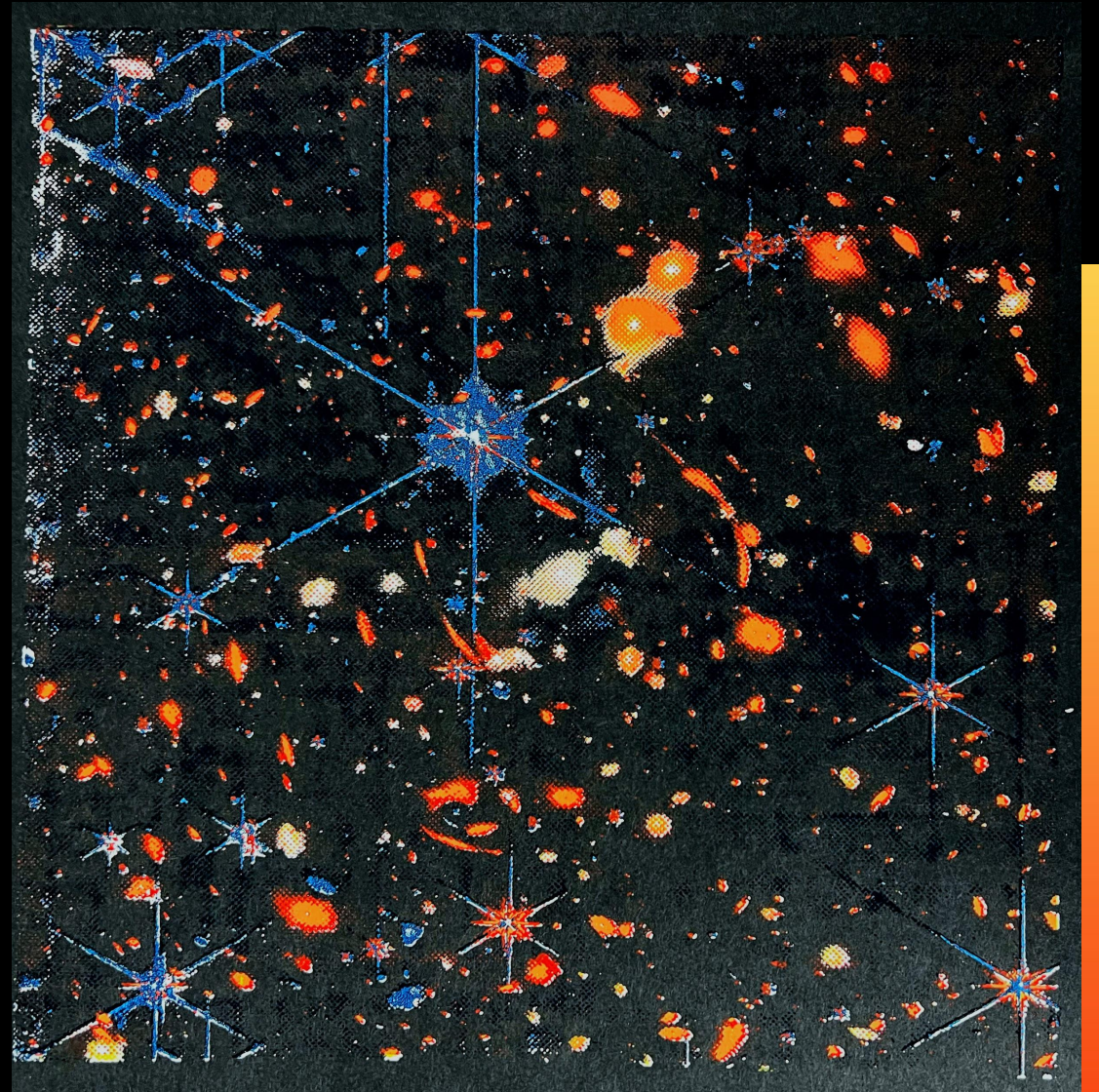


**FIRST IMAGES FROM
THE JAMES WEBB SPACE TELESCOPE**

Deep Field-Zelinskie (Silk Screen)



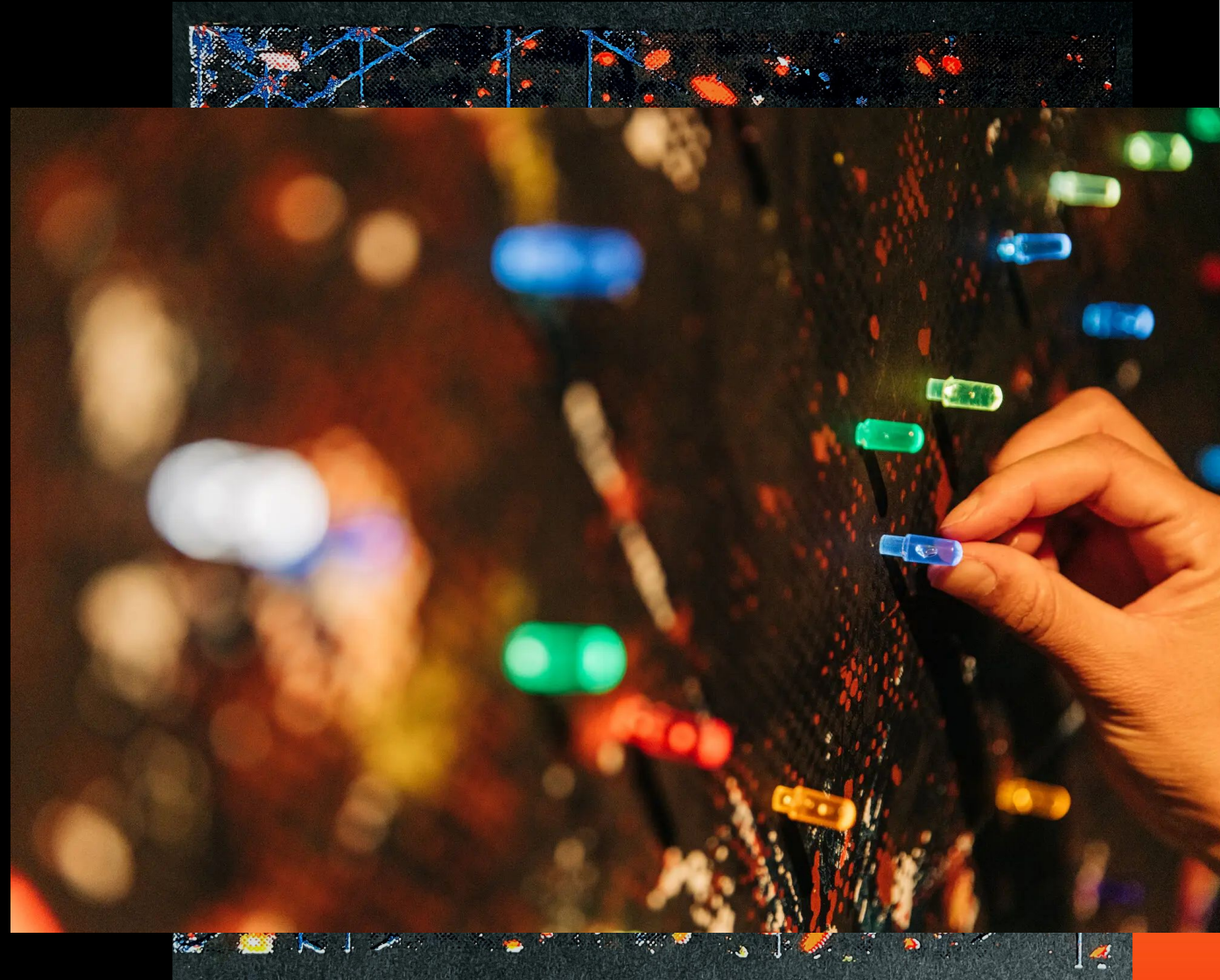
SMACS 0723 (Image by NASA)



“Deep Field” by Ashley Zelinskie. (Image by Ashley Zelinskie)

Deep Field-Zelinskie (Silk Screen)

“Deep Field” mimics the digital process of color channel layering using traditional silk-screening techniques. This serigraph comprises four layers—white, yellow, red and blue—built into a light box enclosure. By asking viewers to add their own colored peg to a dark spot within the composition, this interactive installation then invites participants to find their own beacon of light in the darkness, and imagine the possibilities of an endless universe.



“Deep Field” by Ashley Zelinskie. (Image by Ashley Zelinskie)

Webb Telescope's First Images of the Unseen Universe 2022-Southern Ring Nebula



FIRST IMAGES FROM
THE JAMES WEBB SPACE TELESCOPE

Southern Ring Nebula Sculpture



Southern Ring Nebula *(Image by NASA)*



“Southern Ring Nebula” by Ashley Zelinskie. *(Image by Patrick Delaney)*

Webb Telescope's First Images of the Unseen Universe 2022-Stephen's Quintet



“La Danse” by Ashley Zelinskie



Stephen's Quintet *(Image by NASA)*



“La Danse” by Ashley Zelinskie. *(Image by Patrick Delaney)*

ONYX Art Exhibit-Manhattan, NY

October 2022



(Image by Ashley Zelinskie)

(Image by Ashley Zelinskie)

ONYX Art Exhibit-Technical presentations by Webb Scientists and Engineers



(image by Ashley Zelinskie)



(Image by Ashley Zelinskie)

European Space Agency (ESA) Unfolding the Universe

Continued collaboration with a new VR world featuring ESA representatives highlighting international partnerships on Webb



"Ariane 5" by Ashley Zelinskie. (Image by Ashley Zelinskie)

Discussion

For far too long art and science have existed on opposite ends of the spectrum. Stereotypes can allow cross-collaboration to be difficult.

Much can be achieved by adding a dose of diverse artistic and creative thinking to the pursuit of science. Furthermore those achievements can benefit from being shared in artistic arenas because they reach wider audiences when artists have access to new ideas and discoveries.

Each member of the public who participated in an art campaign or viewed an art exhibit may have told friends and family, or posted their own work for their followers to see, and trying to add that up would be an impossible task. But as detailed in this paper, we can see proof of the impact of Webb on the artists who have documented it. We can look at the numbers of art pieces, exhibitions, and website and online gallery views, like artist Gong's 9.2 million Flickr views. And we can look at the press coverage of Zelinskie's exhibit.

Artists are able to capture and communicate complex ideas simply and beautifully. Scientists are great thinkers and genius minds that can solve the mysteries of the universe. Imagine what they can do together.



**“Stephen’s Quintet ” by Ashley Zelinskie.
(Image by Ashley Zelinskie)**

Acknowledgements

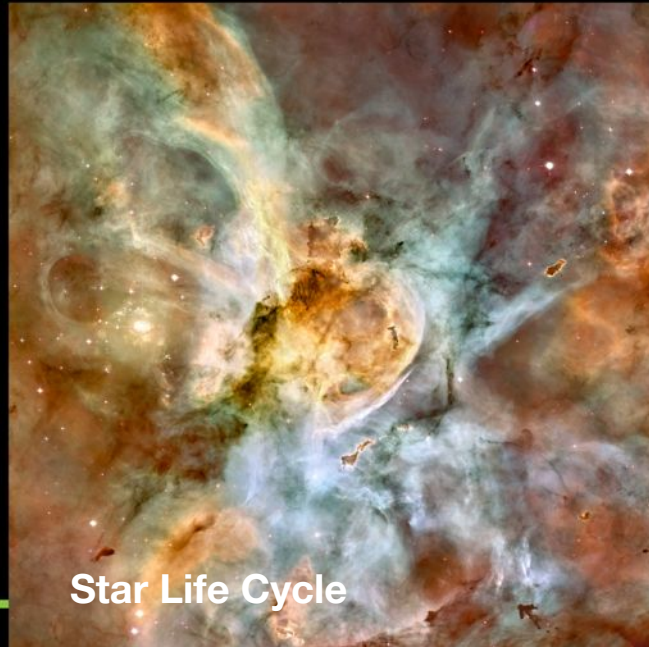
NASA, NASA Webb, European Space Agency, Northrop Grumman, Ball Aerospace, Space Telescope Science Institute, Alyssa Pagan (Space Telescope Institute), Dr. Amber Straughn (NASA Goddard), Dr. Conor Nixon (NASA Goddard), Elaine Stewart (NASA Goddard), Dr. Intae Jung (NASA Goddard), Dr. John C Mather (NASA Goddard), Joseph DePasquale (Space Telescope Institute), Kan Yang (NASA Goddard), Dr. Knicole Colón (NASA Goddard), Krystal Puga (Northrop Grumman), Larkin Carey (Ball Aerospace), Dr. Naomi Rowe-Gurney (NASA Goddard), Paul Geithner (NASA Goddard), Dr. Sarah Kendrew (European Space Agency), Mark McCaughrean (ESA), Pierre Ferruit (ESA), Mike Massimino, Onassis Foundation, ONX Studio, NewInc, New Museum, Mozilla, Mozilla Hubs, Looking Glass Factory, HTC Vive Arts, Metaxu Studios, Gazelli Art House, GAZELL.iO, In



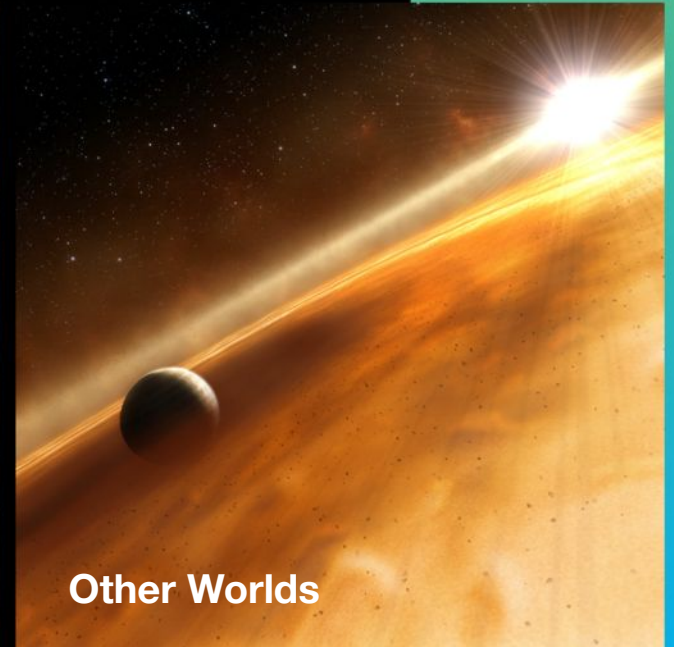
Early Universe



Galaxies over Time



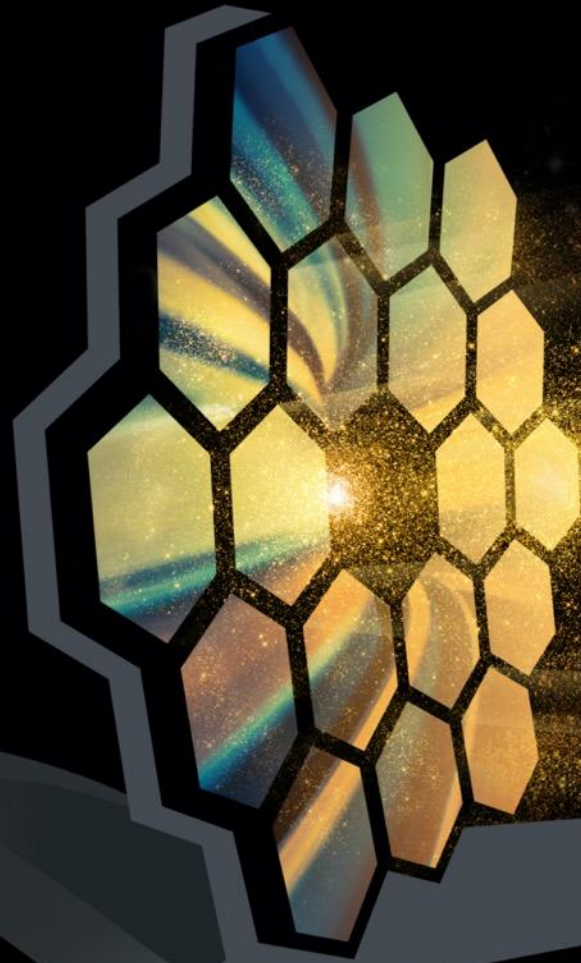
Star Life Cycle



Other Worlds

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WEBB

SPACE TELESCOPE

Questions?
