

# TRANSMEDIA MUSEUM

Increasing Learning and Efficacy about Emerging Technologies through Transmedia Engagement by the Public in Science-in-Society Activities.

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## WHAT IS life?

## WHAT DOES IT MEAN TO BE human?

## WHY DO WE create?

**How can we come to terms with the complex social impact of new cutting-edge fields like synthetic biology, robotics, genetics and machine learning?** In order to manage these transformative changes, people not only need to understand science and technology, but also to actively participate in shaping a world where our ability to control the building blocks of life and cognition is vastly expanded. The Transmedia Museum will use the interactive, engaging nature of digital narrative and hands-on activities to invite deeper conversations about questions of scientific innovation and responsibility. The project builds on themes of human creativity, societal responsibility and scientific ethics as first presented in Mary Shelley's classic novel *Frankenstein*.

Public learning objectives include:

**IDENTITY:** Developing interest in science and engineering

**CONCEPTS:** Understanding scientific concepts and science-in-society ideas

**SKILLS:** Engaging in creative processes

**EFFICACY:** Shaping science and technology

## GOALS

The goal of the transmedia museum is to advance new approaches to the design and development of STEM learning in informal environments such as:

**PUBLIC ENGAGEMENT** through a digital museum, creative and hands-on programming in museums, and online challenges and competitions

**PROFESSIONAL DEVELOPMENT WORKSHOPS** to increase the capacity of museum staff to engage the public in science-in-society content effectively

**RESEARCH STUDY** investigating the interactions between the individual elements and how they contribute to increased efficacy and engagement in science-in-society issues

## CHALLENGES

**Encouraging deeper engagement** and facilitating learners' progression across physical and digital activities in the transmedia museum environment.

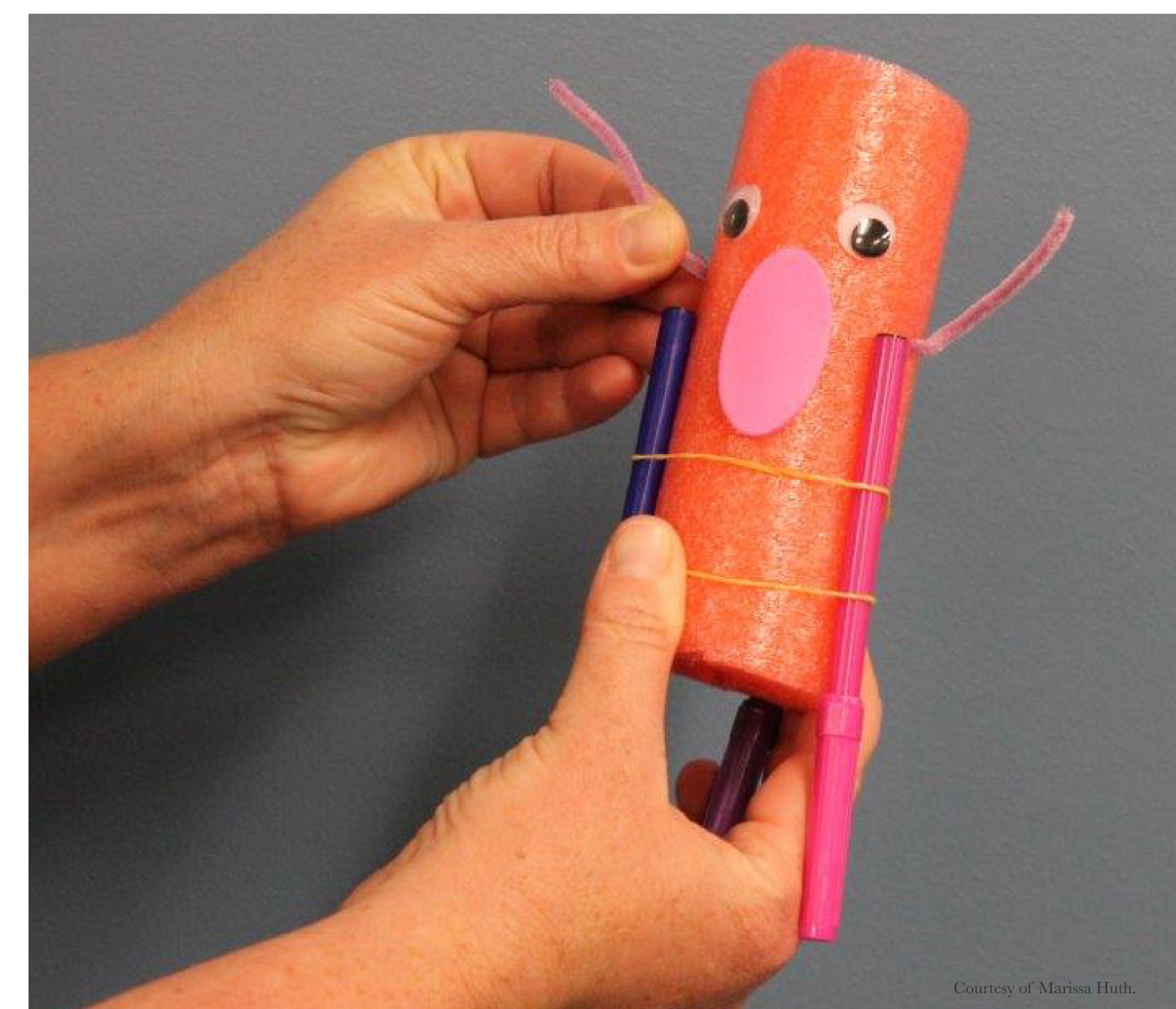
**Broadening participation** in the transmedia museum, including engagement of underserved and underrepresented audiences.

Strategies to address these challenges include:

Creating multiple entry-points to the transmedia museum

Creating experiences that are appropriate and engaging for diverse audiences

Creating transitions across media that are meaningful and motivating



◀ In an early prototype activity, participants were asked to create and animate scribbles, and then reflect on their qualities, life-like or otherwise.

“NONE BUT THOSE WHO HAVE EXPERIENCED THEM CAN CONCEIVE OF THE ENTICEMENTS OF SCIENCE.”

—*Frankenstein*, Mary Shelley, 1818

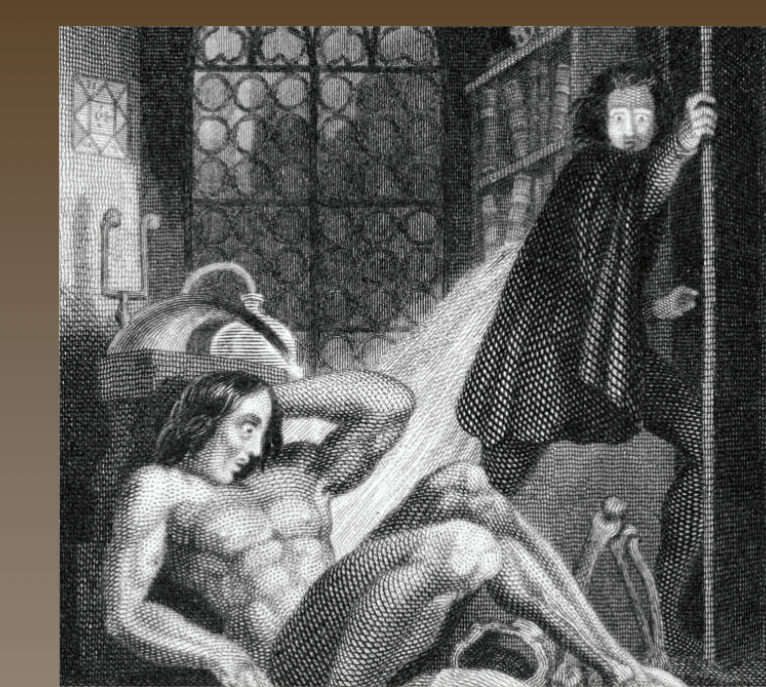
▶ Online, participants shared images of their scribbles and tried additional creative and reflective activities.

Courtesy of Marissa Huth.



Courtesy of Marissa Huth.

## Creature Confronts Creator:



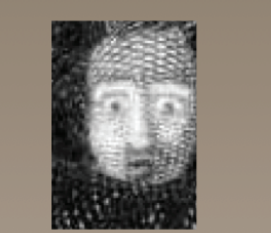
In Mary Shelley's *Frankenstein*, the "Cursed" Monster dreads the first Frankenstein over to the Monster, the unnatural pain that Europe forever. However, Victor later reconsiders the bargain, and destroys the half-made mate, with disastrous consequences in the subsequent confrontation between Frankenstein and his creation.



### Mary Shelley ★SAVE

Mary Shelley was an English novelist, short story writer, dramatist, essayist, biographer, and travel writer, best known for her Gothic novel *Frankenstein; or, The Modern Prometheus*.

**Born:** August 30, 1797, Somers Town, London, United Kingdom  
**Died:** February 1, 1851, Chester Square, United Kingdom  
**Spouse:** Percy Bysshe Shelley (m. 1816–1822)  
**Parents:** William Godwin, Mary Wollstonecraft



Mary Shelley

The novel

The Monster

Victor Frankenstein

NEXT *Blade Runner*

Courtesy of Center for Science and the Imagination.

◀ Exhibits in the digital museum will explore science in society topics, and will invite visitors to make their own digital collections and exhibits.

“THE WORLD WAS TO ME A SECRET, WHICH I DESIRED TO DISCOVER.”

—*Frankenstein*, Mary Shelley, 1818

▶ Family extracting DNA and considering the social dimensions of synthetic biology research.



Courtesy of NISE Network.

## Elements

**DIGITAL MUSEUM** features collections from the public and a broad range of museums and science centers about Frankenstein and science-in-society topics and enables members of the public to create and share virtual exhibits.

**FOOTLOCKER** museum kit supports making activities that promotes reflection and explores emerging technologies like artificial intelligence, synthetic biology, robotics and bioengineering.

**WORKBENCH** promotes online challenges and competitions, including making, hands-on science, and other creative activities.

“I COLLECTED THE INSTRUMENTS OF LIFE AROUND ME, THAT I MIGHT INFUSE A SPARK OF BEING INTO THE LIFELESS THING THAT LAY AT MY FEET.”

—*Frankenstein*, Mary Shelley, 1818

## RESEARCH & EVALUATION

**A mixed-methods research study** investigates the interactions among the individual elements and how they contribute to increased efficacy and engagement in science-in-society issues. The study hypothesizes that the nature of the transmedia activities—specifically making and creating activities that foster 21st Century Skills—will enable participants to recognize that they can become active participants in science-in-society conversations and as a consequence effect change.

**Project evaluation** will assess public and professional learning, document reach, describe the success of the project in achieving goals, and provide recommendations for improving project impact. Efforts will include formative and summative studies.

## PROJECT TEAM

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This material is based upon work supported by the National Science Foundation under grant number DRL-1516684. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

