

# **Beyond the lab: The art of science and math**

Science on Tap  
John Nicholson

# Beautiful?

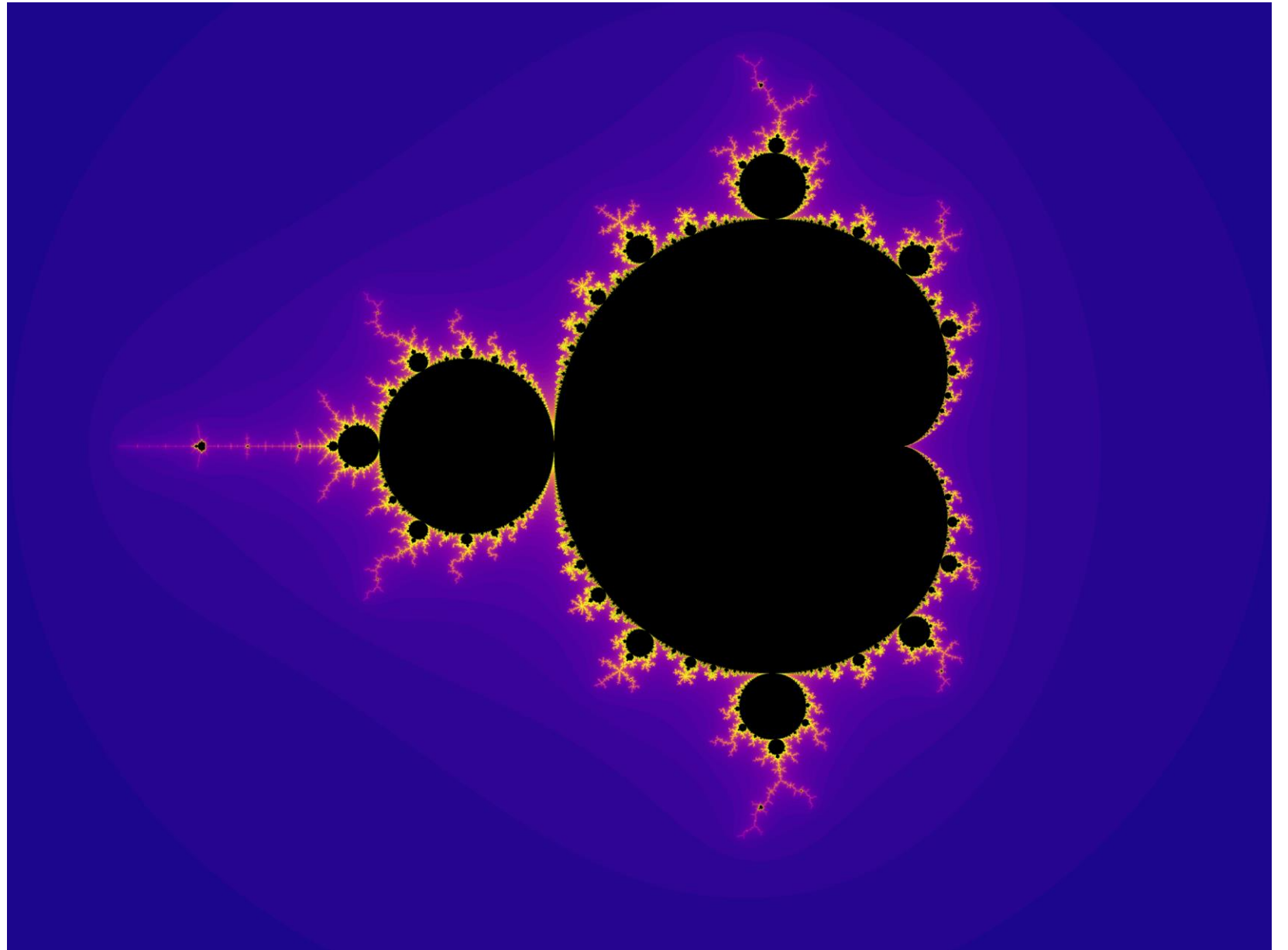
Mathematicians often say, “math is beautiful.”

What does that mean?

$$z_{n+1} = z_n^2 + c$$

# Beauty within the equation

A rendering of  
the Mandelbrot  
set

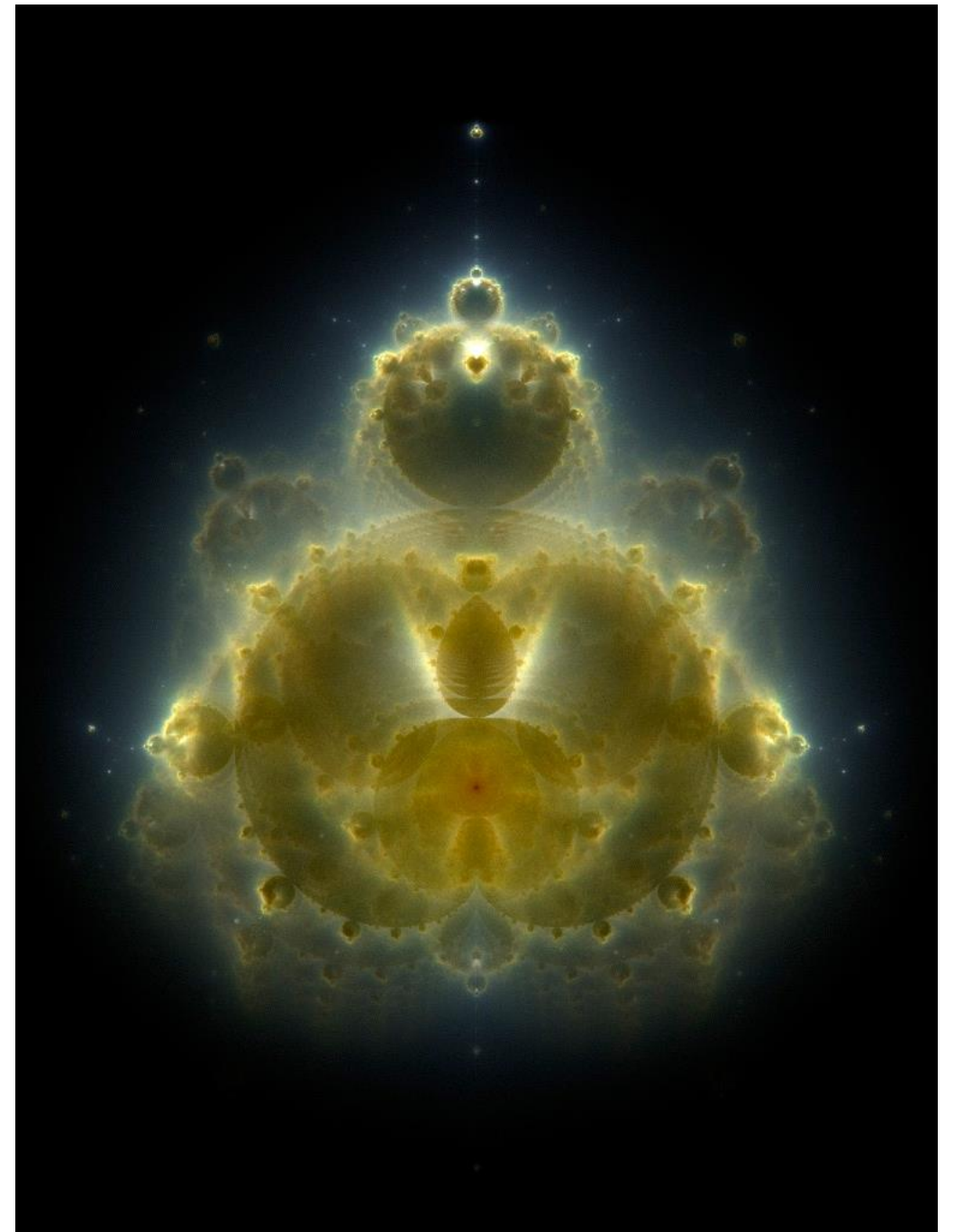


# Interpretations

Same equation

Different interpretation

The Buddhabrot



# **It's not just mathematicians**

**I am among those who think that science has great beauty.** A scientist in his laboratory is not only a technician: he is also a child placed before natural phenomena which impress him like a fairy tale. We should not allow it to be believed that all scientific progress can be reduced to mechanisms, machines, gearings, even though such machinery also has its beauty.

- Marie Curie

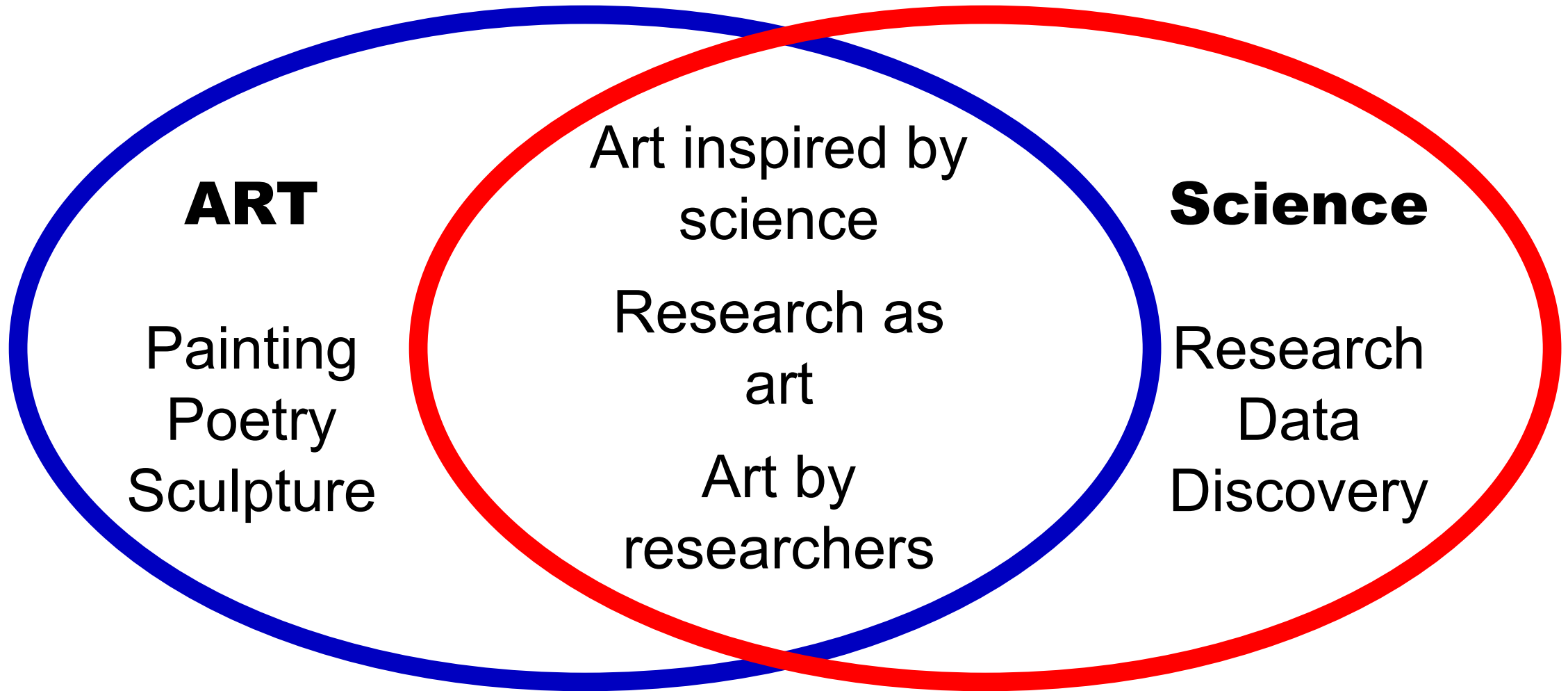
# Art is a means of communication

- Scientists, engineers, and researchers love communicating their work and ideas
  - To share the importance of their discoveries and knowledge
  - To connect with the public
  - To inspire the next generation
  - And frankly, because it's fun!

Chris Gentry. Great Basin Bristlecone Pine, Ancient Bristlecone Pine forest, White Mountains, CA (2010)



# The intersection

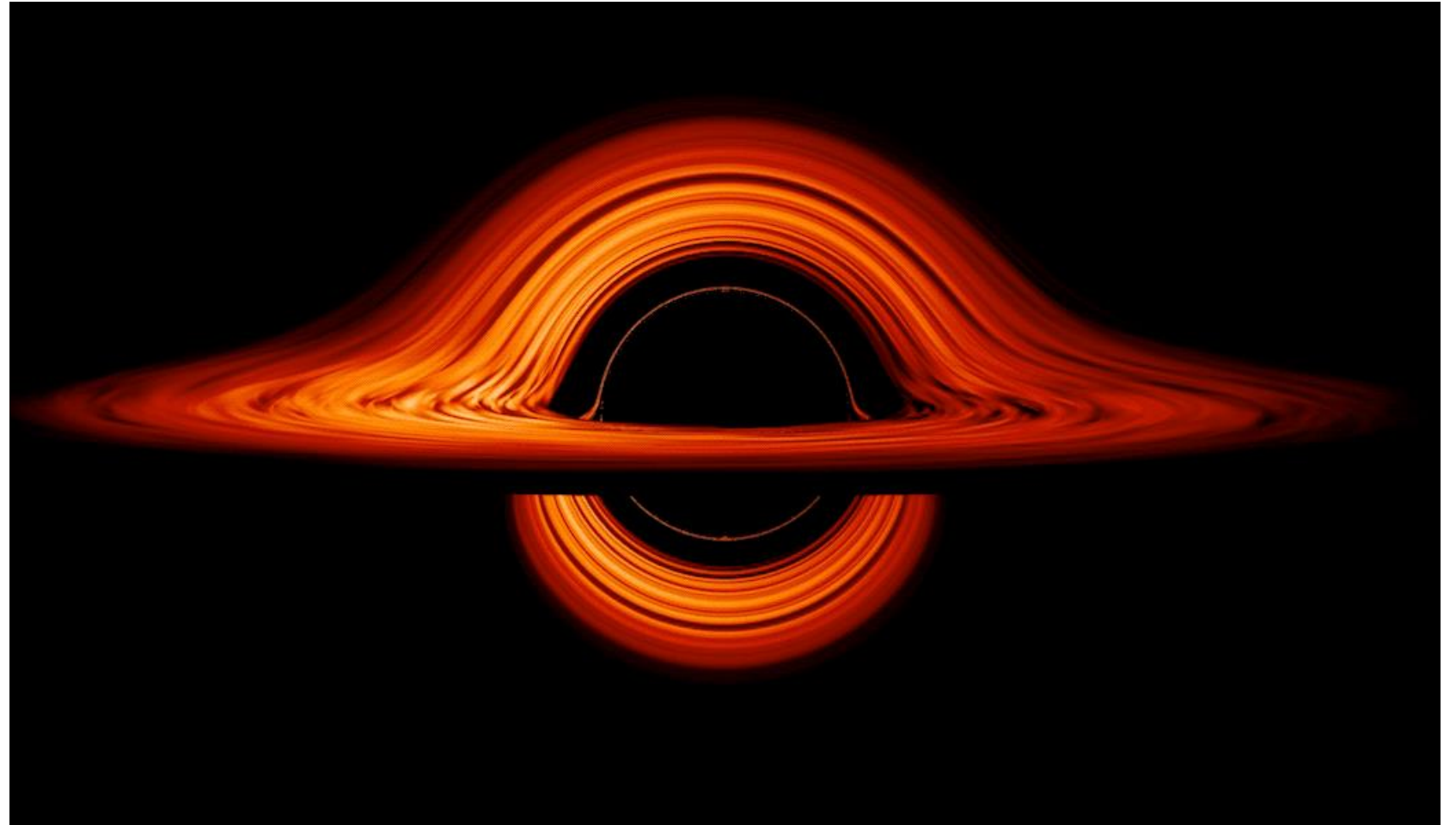


**Art, this is science.  
Science, this is art.**



# Interstellar

directed by Christopher Nolan (2014)

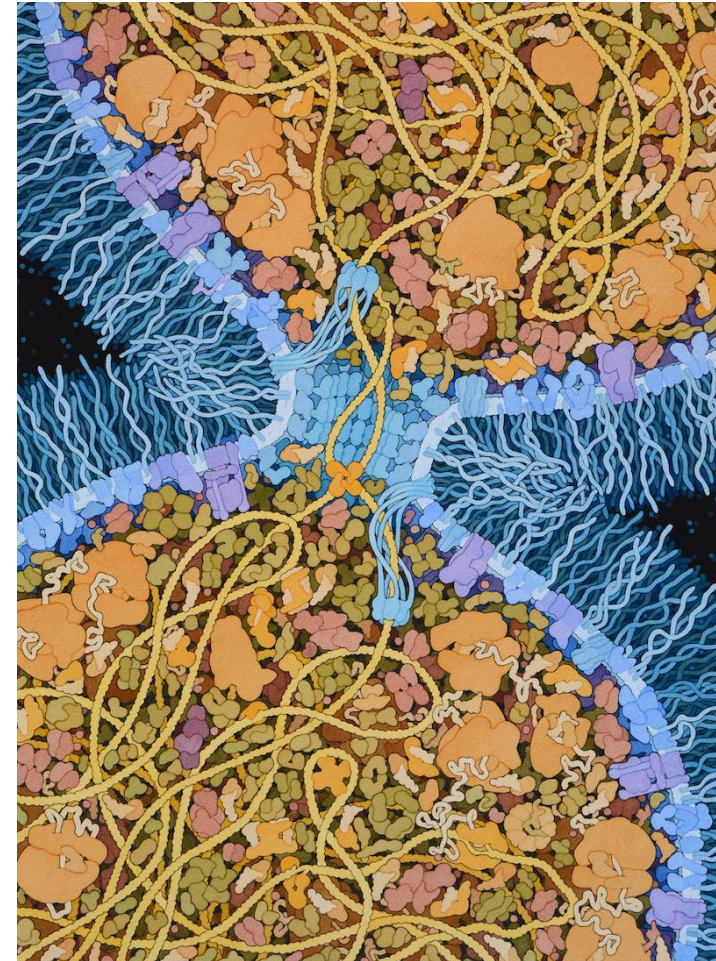


NASA  
visualization of  
a black hole

# David S. Goodsell

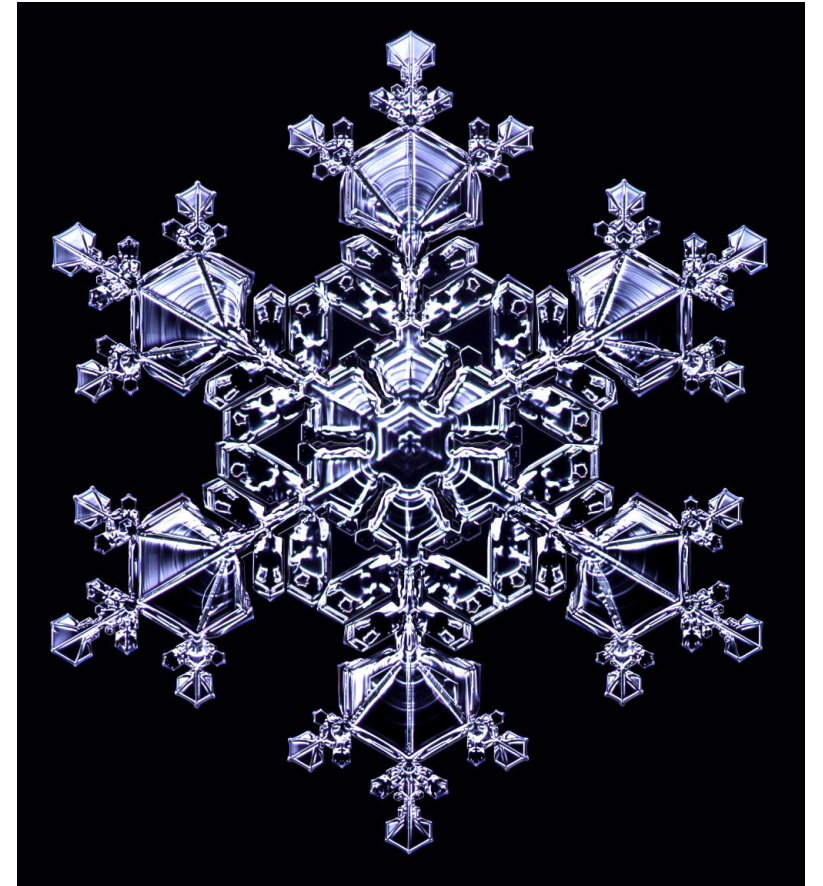
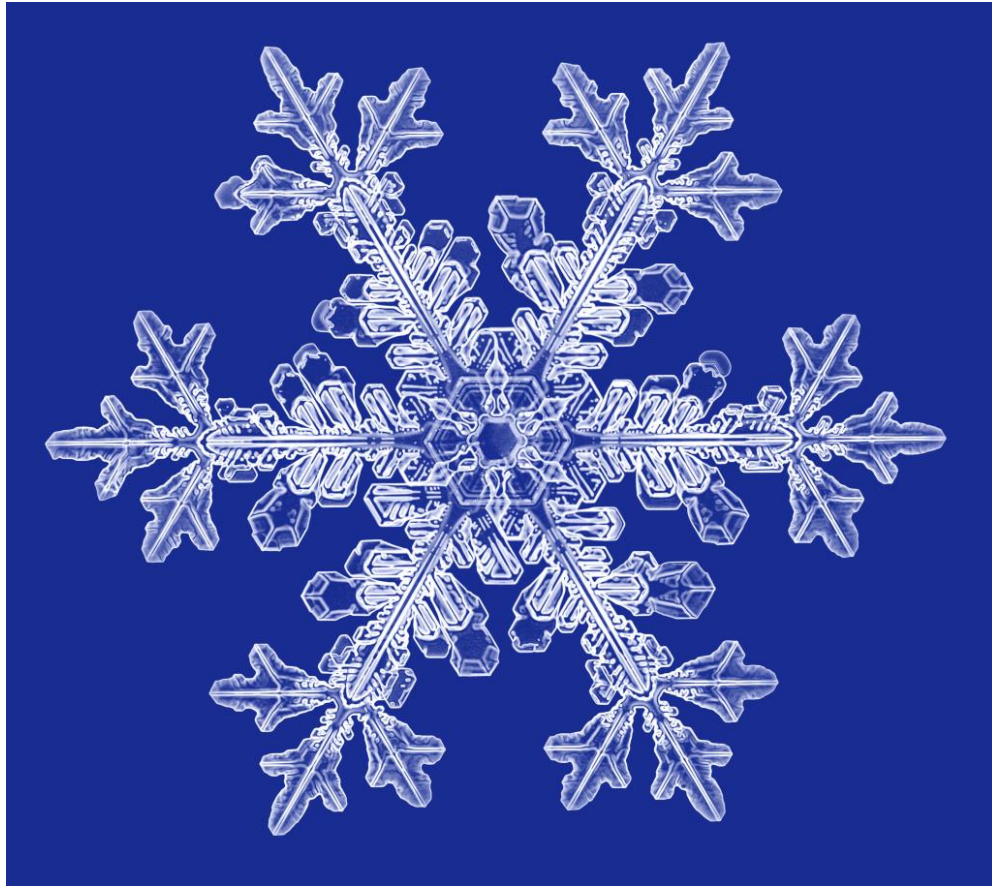
Myelin, 2020

Last Universal Common Ancestor, 2018



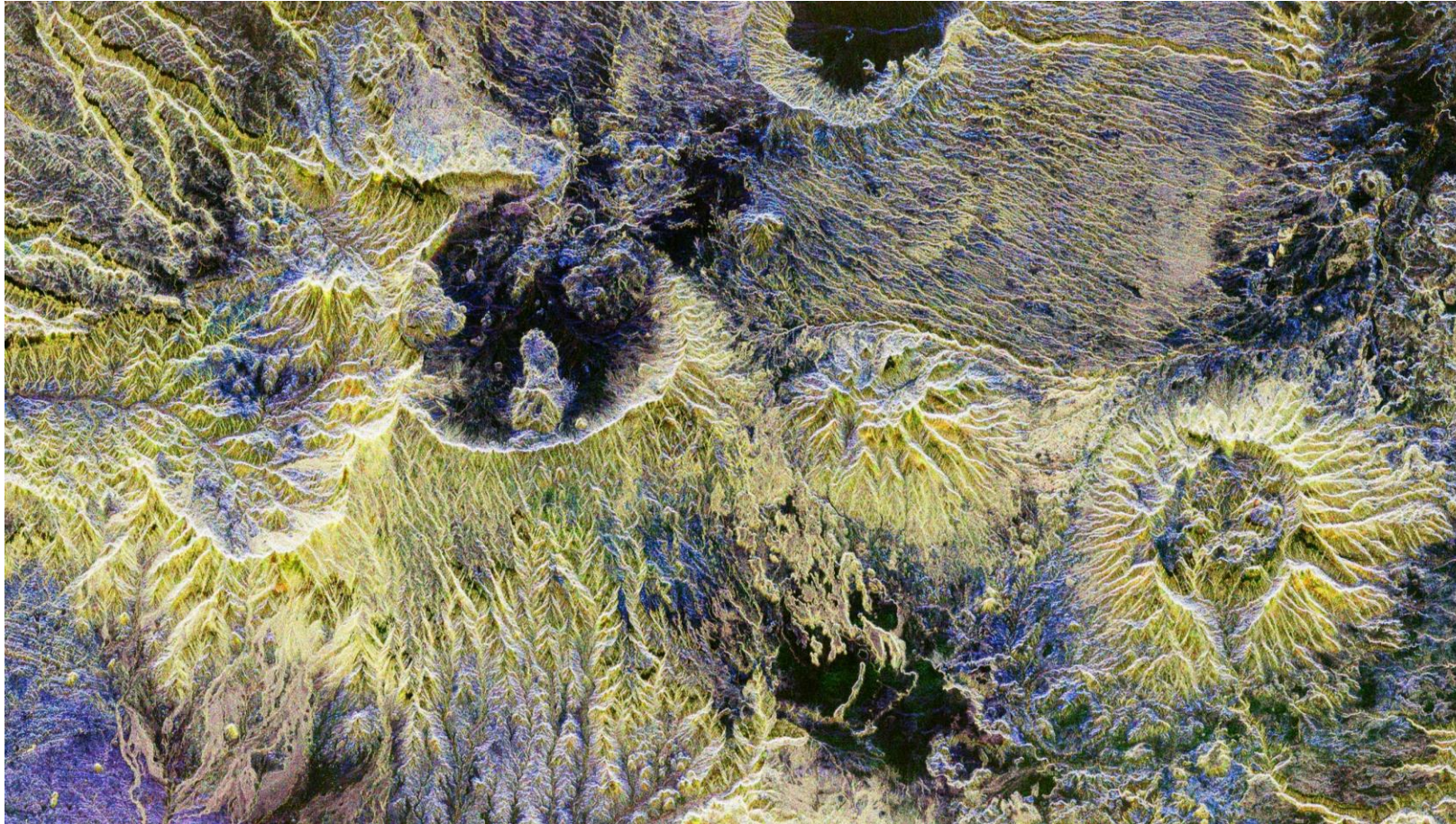
# Kenneth Libbrecht

Photos of snowflakes



# ESA's Biomass mission satellite

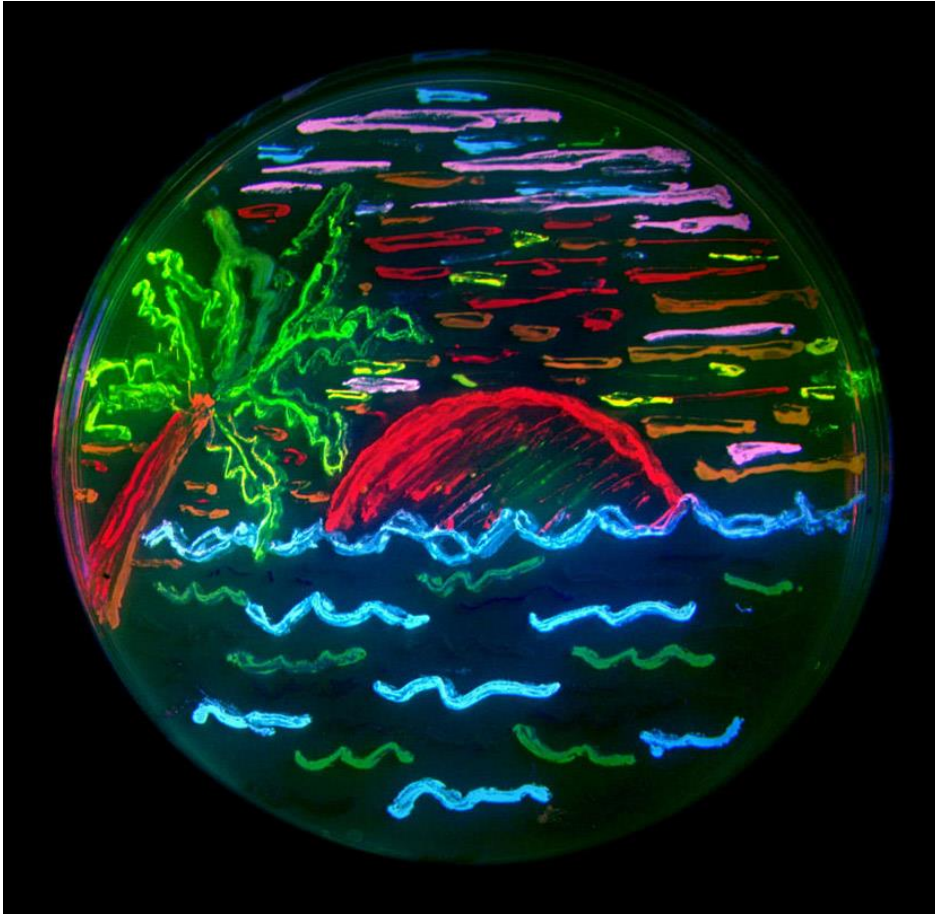
Desert structure in Chad (6/23/2025)



# Microbial art, agar art

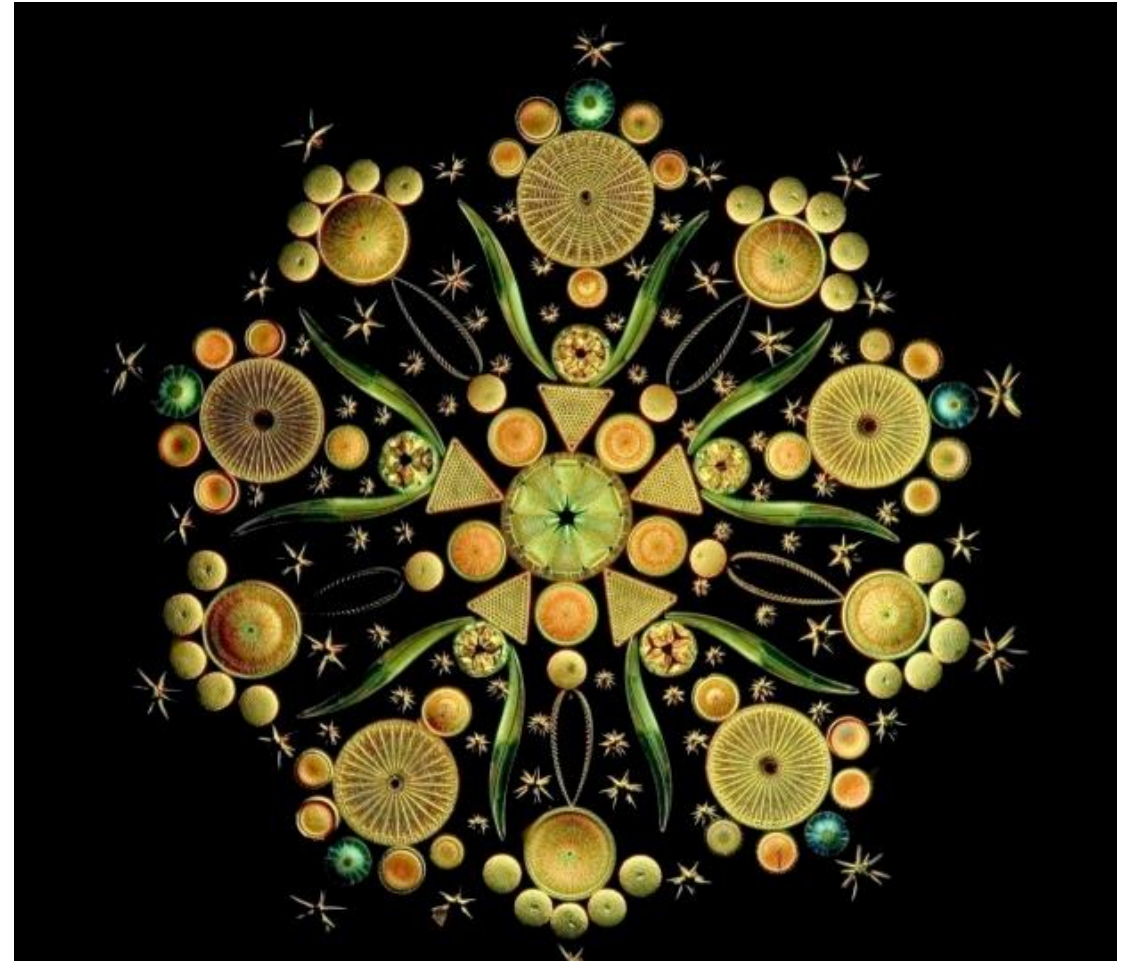
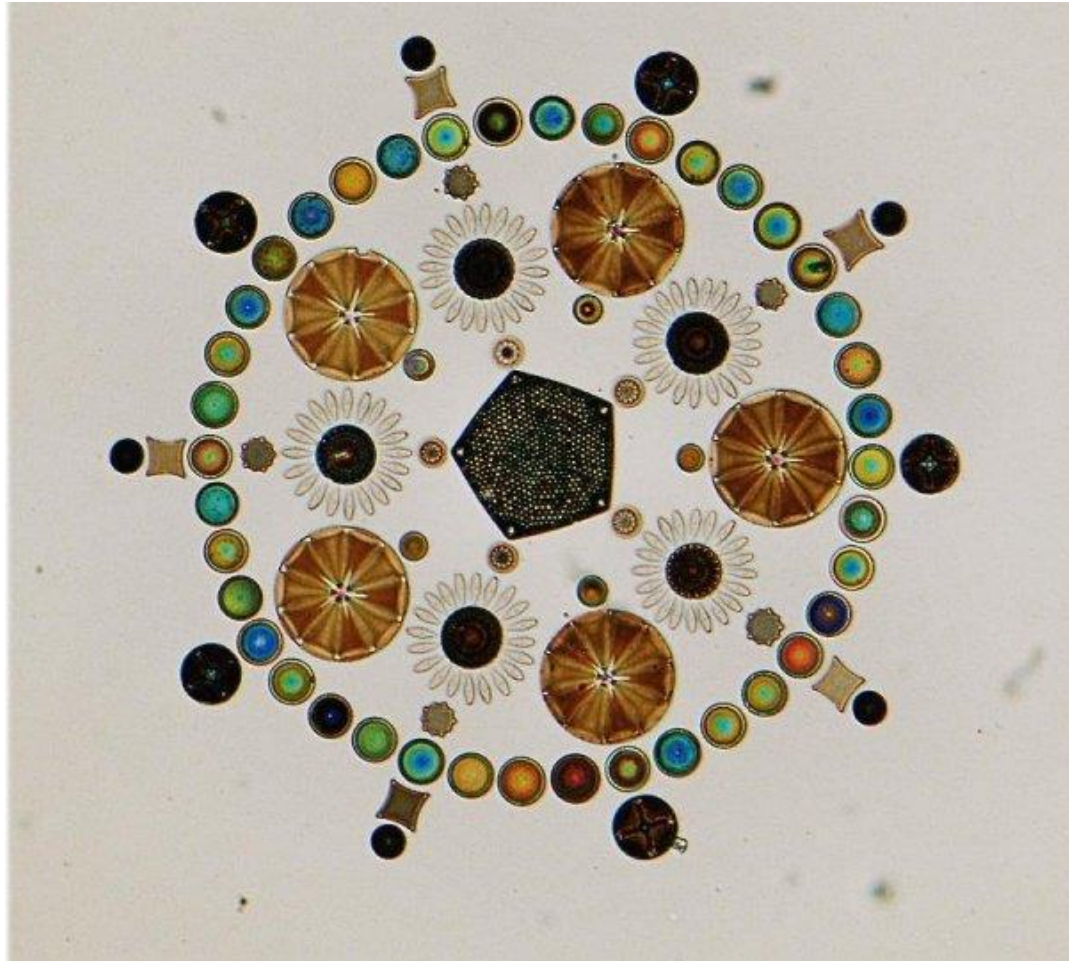
Left: Artwork: Nathan Shaner, photography: Paul Steinbach

Right: "Cell to Cell" by Mehmet Berkmen and Maria Peñil



# Diatom art

John Diedrich Möller. Late 1800s



# JoAnne Growney

A Fib poem (2019)

Pick

up

your pen.

Think of ways

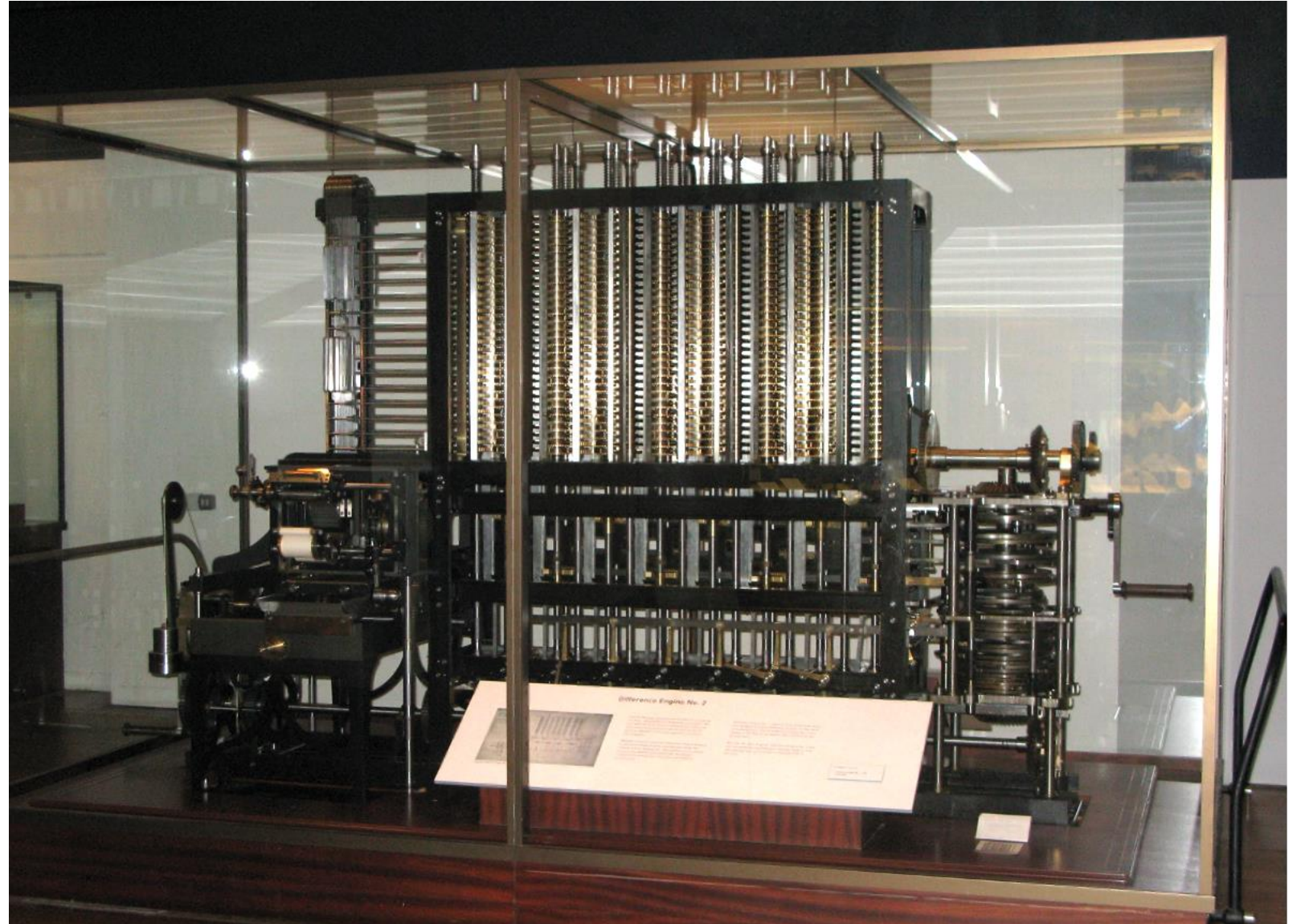
that math is magic.

Shape your words into a poem

# Difference Engine No. 2

Designed by  
Charles Babbage,  
1846-1849

Constructed by the  
Science Museum in  
London, 1985-1991



**Around campus**

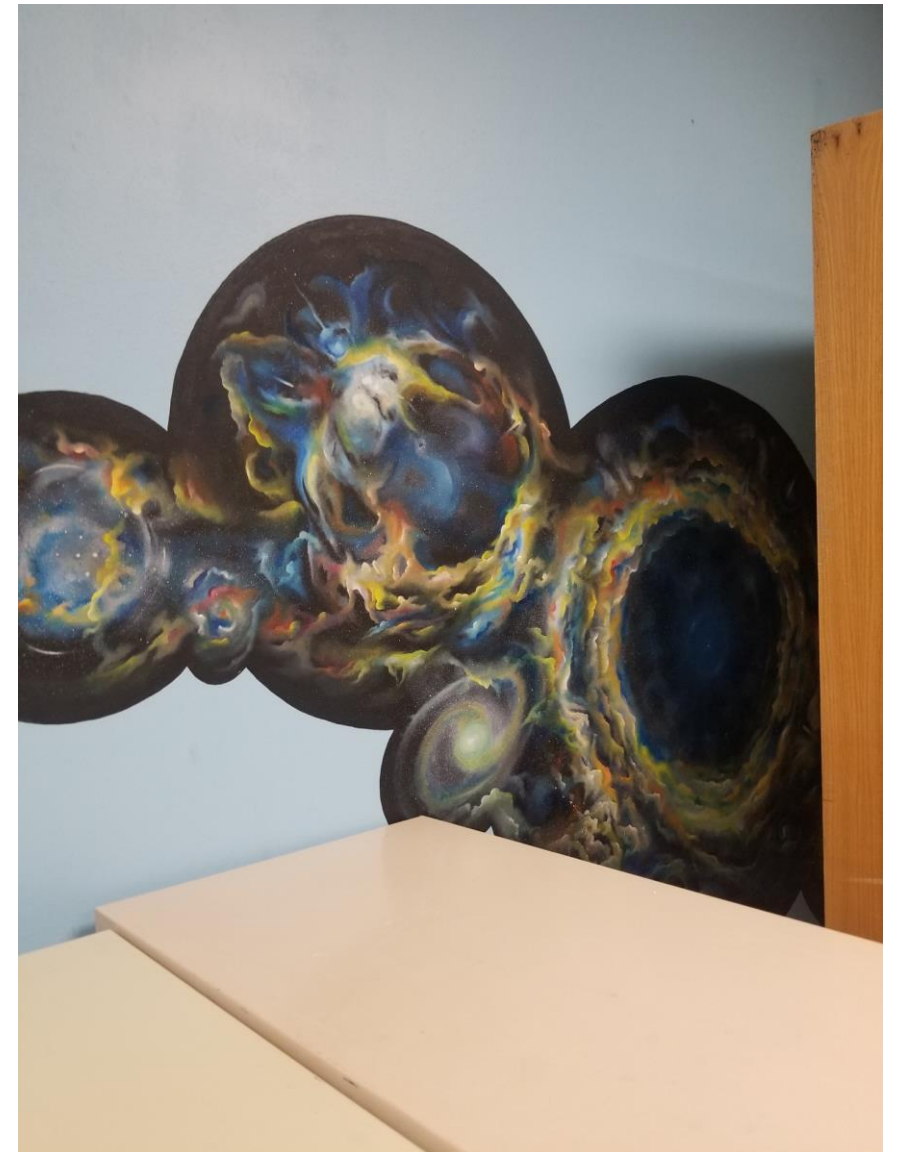
# **Sculpture in the new Health Professions Building**

Julie McKinney, MLS(ASCP)<sup>cm</sup>, APSU Diagnostic Laboratory Director



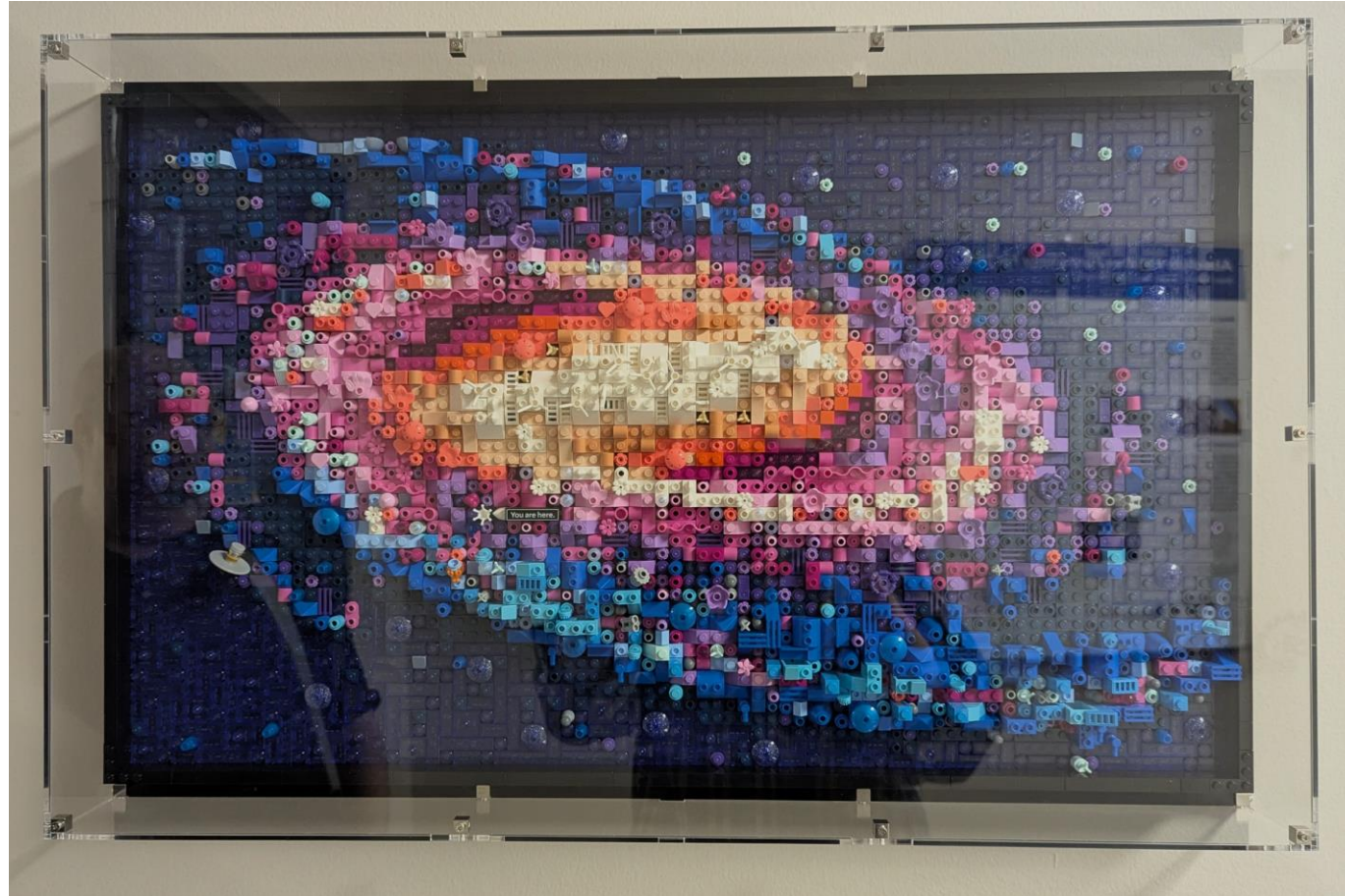
# Birth of a star

Mary Sencabaugh, print of a wall mural



# The Milky Way Galaxy

Bryan Gaither, a.k.a., the Mad Scientist; LEGO set



# Wood carvings

Chesley Morrow



# 3D prints

Engineering Technology staff and students



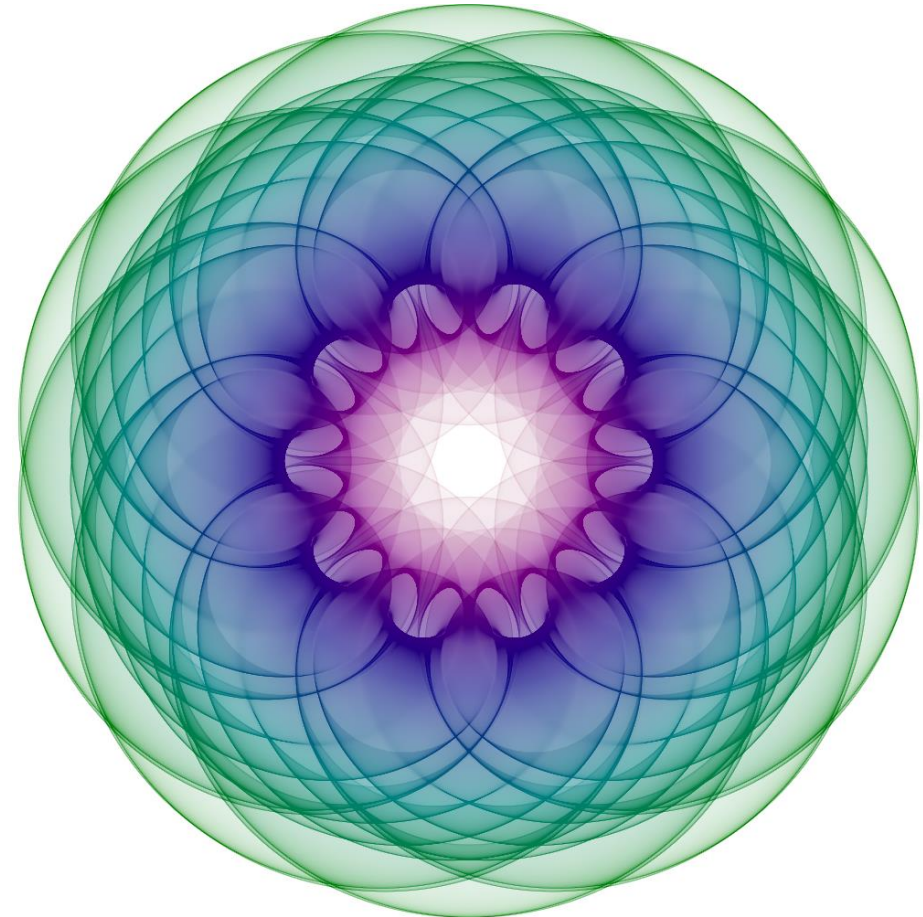
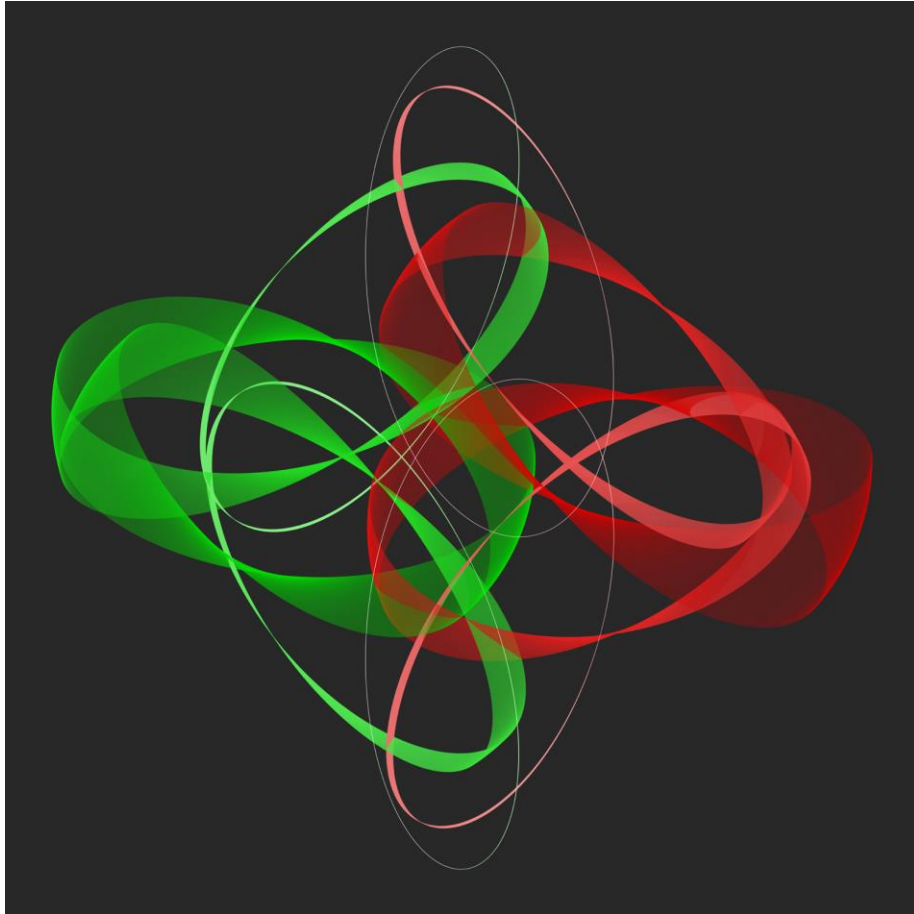
# Cracked Earth

Araan Schmidt. cast iron  
and steel. 2022



# Mathematical-based art

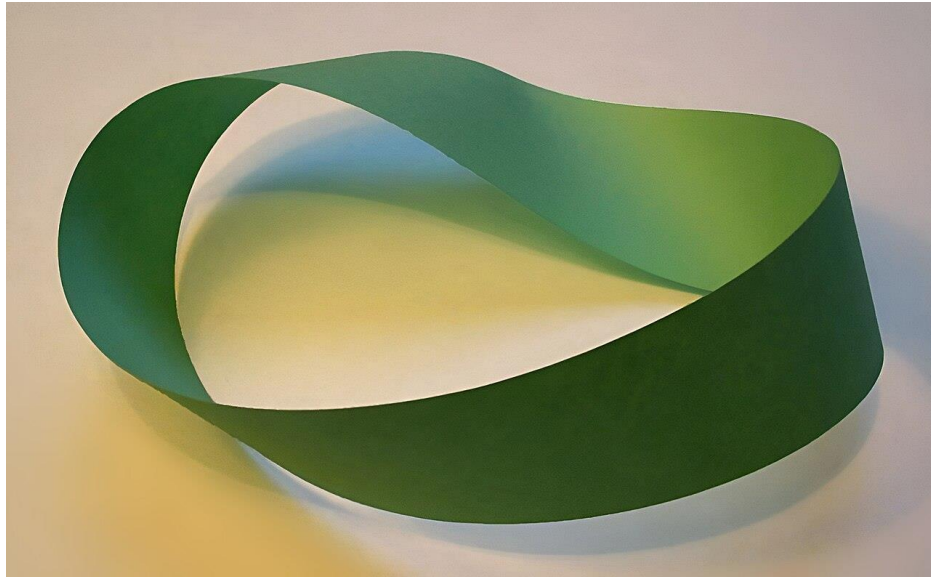
Images from work submitted to Bridges conference, John Nicholson



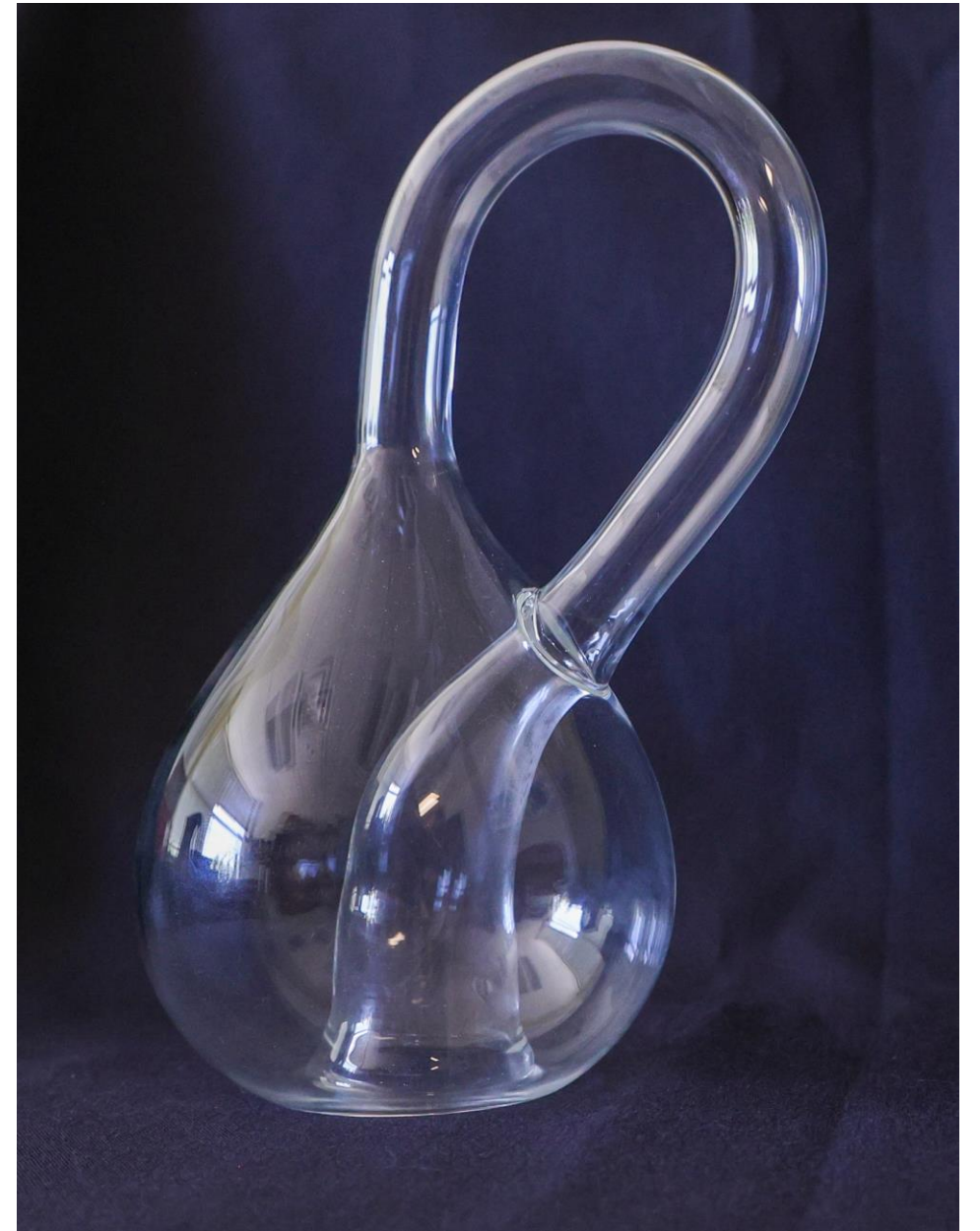
**Sharing the wonder**

# Klein bottles

Cliff Stoll and Acme Klein Bottle



Möbius strip: cousin to the Klein bottle



**Hello,  
world**



# Thank you!



<https://jnicholsonapsu.github.io/art-science-links/>  
for more information on the  
art seen tonight.

