

Proposed public art installation at Broad Institute

Merkin Building - 415 Main St.

Cambridge Redevelopment Authority - Design Review Committee - June 7, 2023



About the Broad Institute of MIT and Harvard



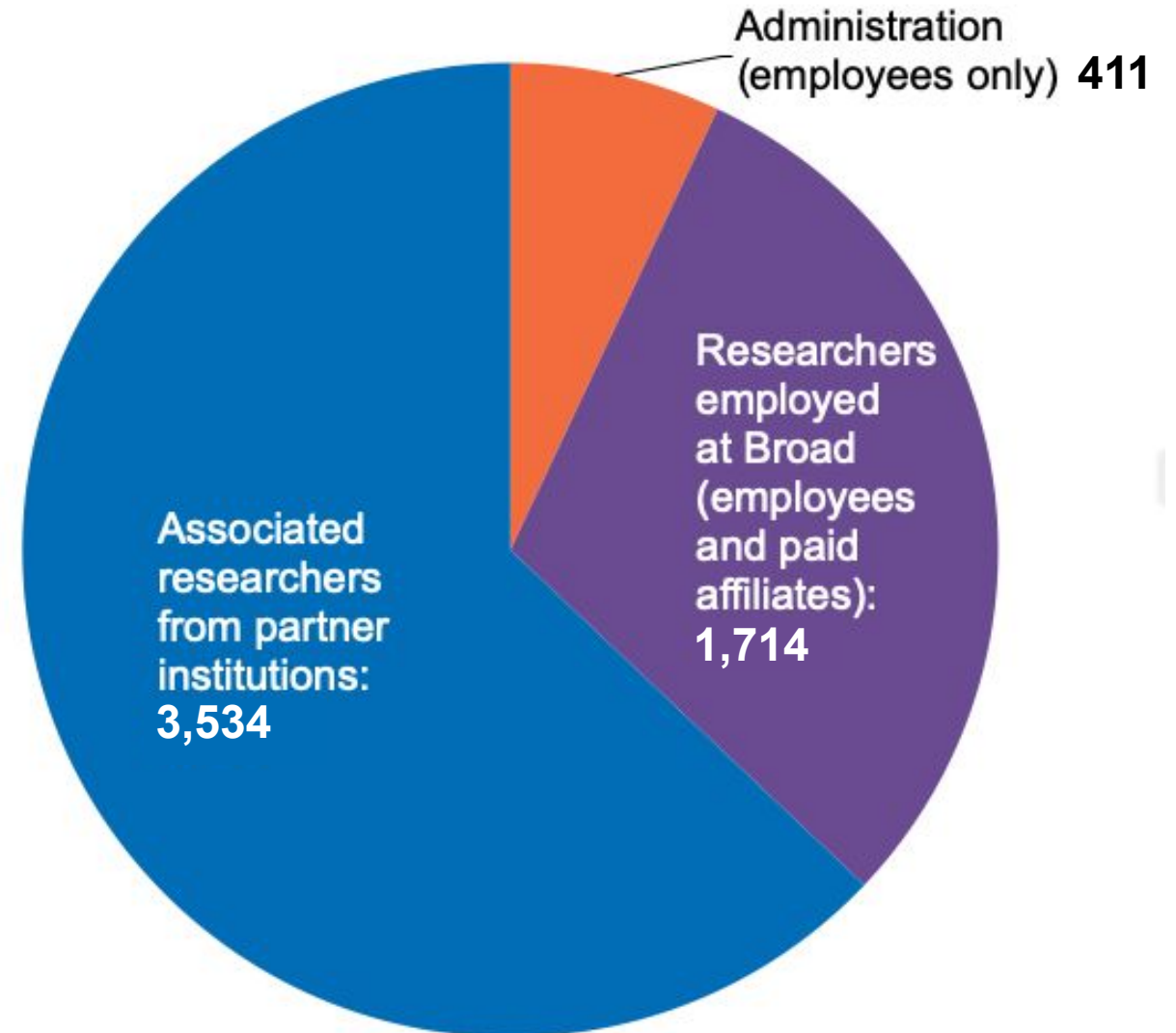
We seek to better understand the roots of disease and narrow the gap between new biological insights and impact for patients.

The Broad Institute of MIT and Harvard is a research organization that convenes a community of researchers from across many disciplines and partner institutions—MIT, Harvard, and Harvard-affiliated hospitals.

Who we are

The Broad community is made up of more than 6,500 members, including physicians, biologists, chemists, computer scientists, engineers, administrative staff, and representatives of many other disciplines.

We are committed to advancing research in areas such as infectious disease, cancer, psychiatric research, and cardiovascular disease.



Partner Institutions



Located in Kendall Square, we partner with MIT, Harvard, Harvard Medical School, and the major teaching hospitals:

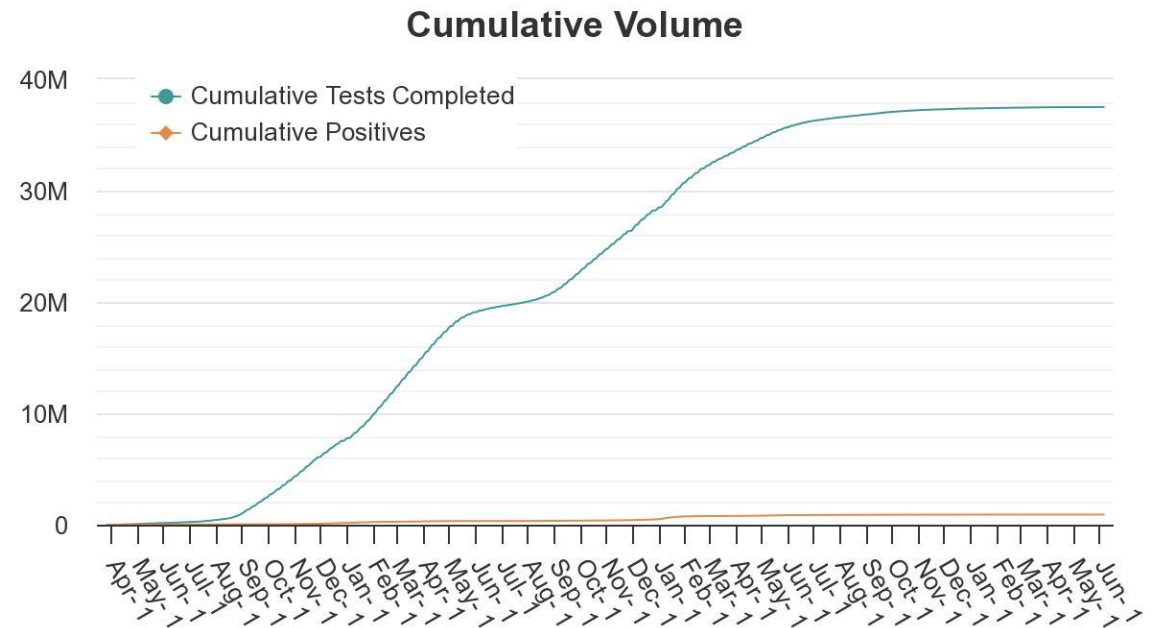
- Beth Israel Deaconess Medical Center
- Boston Children's Hospital
- Brigham and Women's Hospital
- Dana-Farber Cancer Institute
- Massachusetts General Hospital

COVID testing



Broad Institute partnered with the City of Cambridge and the Commonwealth of Massachusetts to offer COVID-19 testing to meet public health needs.

Since March 2020 we processed 37.5 million tests with an average turnaround time of less than 24 hours.



About the artist: Janet Echelman



Janet Echelman sculpts at the scale of buildings and city blocks.

- World-renowned artist creates large-scale artwork: “living, breathing pieces that respond to the forces of nature at the cutting edge of sculpture, public art, and urban transformation.”
- Is known for the award-winning 2015 temporary sculpture, “As If It Were Already Here,” suspended above the Rose Kennedy Greenway, for which she was awarded the Harleston Parker Medal for the most beautiful piece of architecture, building, monument, or structure built in the metropolitan Boston area in the past ten years.
- Is the 2022-23 Mellon Distinguished Visiting Artist at the MIT Center for Art, Science, and Technology.

About the project: Engaging the public at the Merkin Building

Installation would span indoor and outdoor spaces.

- Located at the main entrance to Broad Institute, at the Merkin Building at 415 Main St.
- Also the entrance to the Broad Discovery Center.
- Appears to 'break through' the glass into the building, connecting the outdoors to the public space inside.
- Dramatically lit at night both outdoors and inside; would engage the public into the evening.
- Height and placement would protect pedestrian access to the building as well as sightlines.

About the project: Community engagement



An inviting, inclusive, and engaging space in Kendall Square.

- Broad Institute leans on the expertise and advice of community partners, including the MIT Museum team, MGH Russell museum team, Kendall Square area education and public outreach professionals, as well as the Innovation Trail of Greater Boston to inform our strategy.
- Broad has also convened a Community Engagement Working Group (CEWG):
 - Cambridge Redevelopment Authority
 - Massachusetts Cultural Council
 - Community Charter School of Cambridge
 - Kendall Square Association
 - MIT Office of Government and Community Relations
 - City of Cambridge (STEAM initiative and Workforce development)
 - Harvard University
 - Cambridge Foundry
 - Individuals (artist, patient advocates)

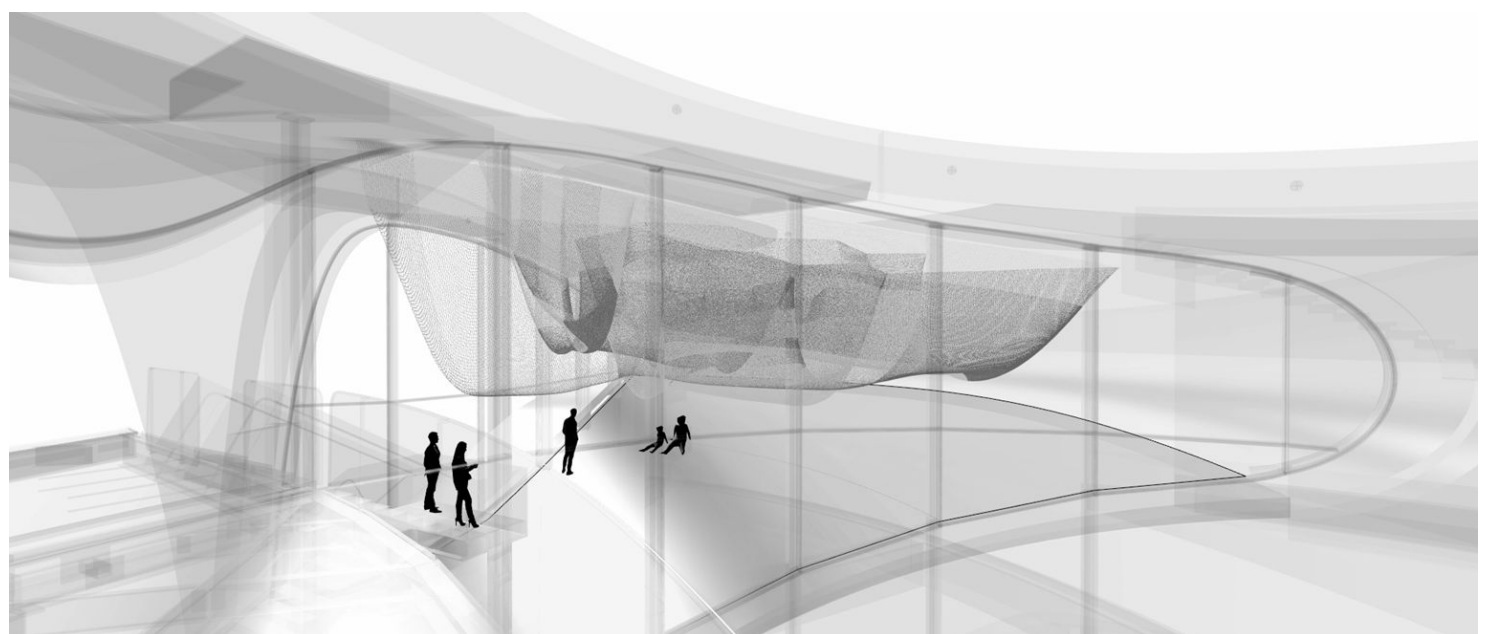
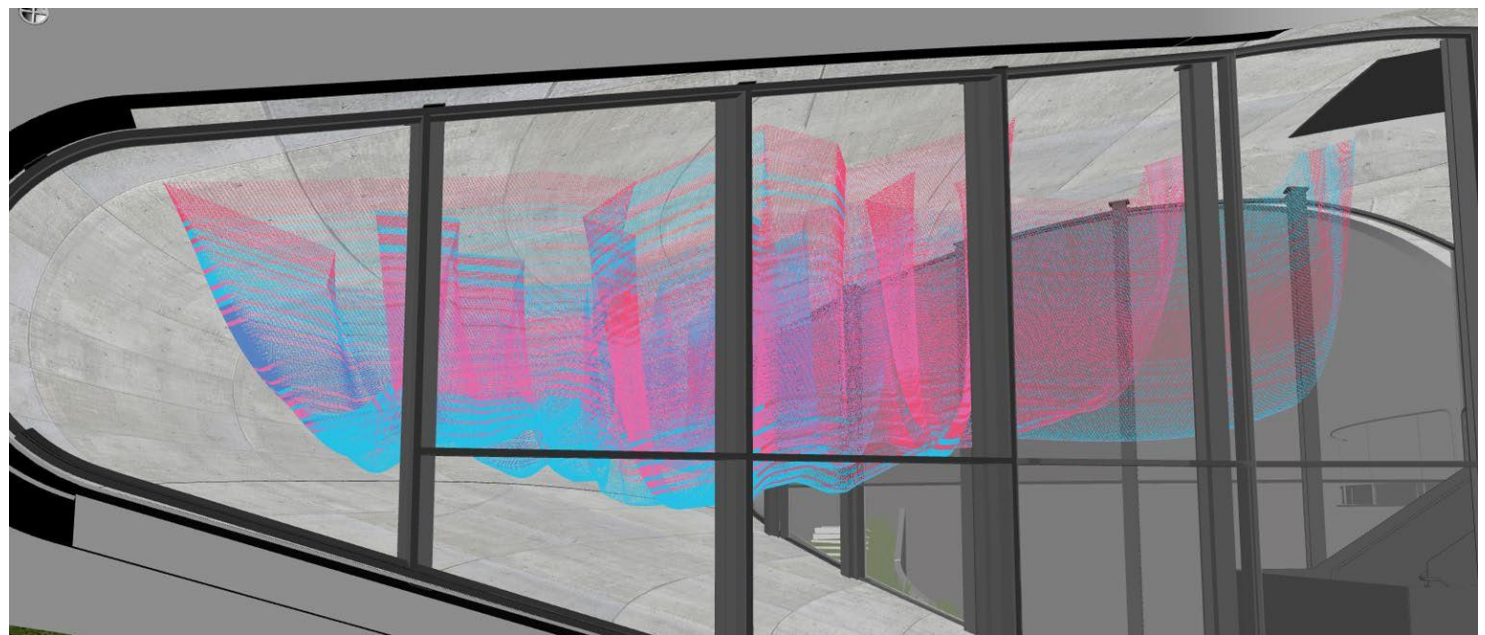
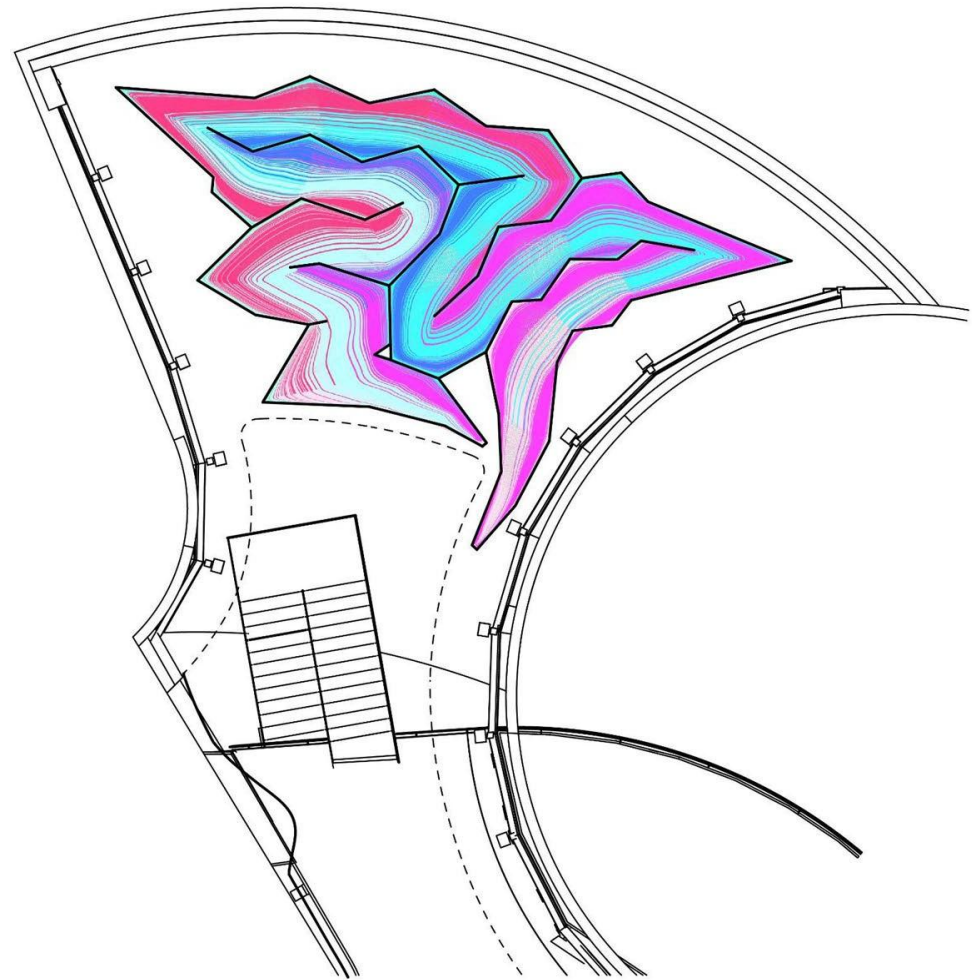
Janet Echelman



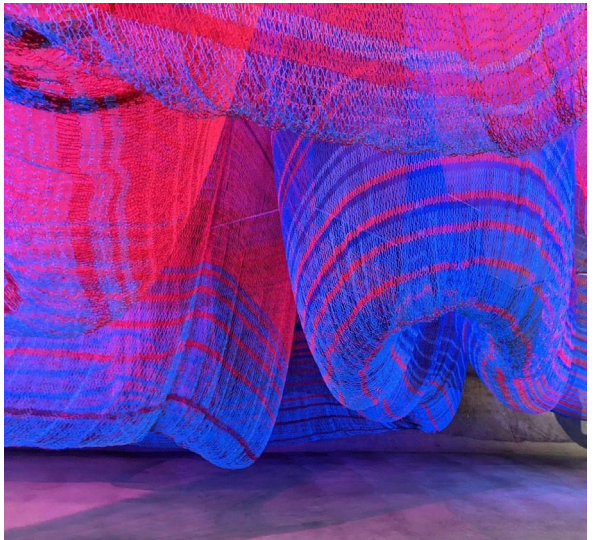
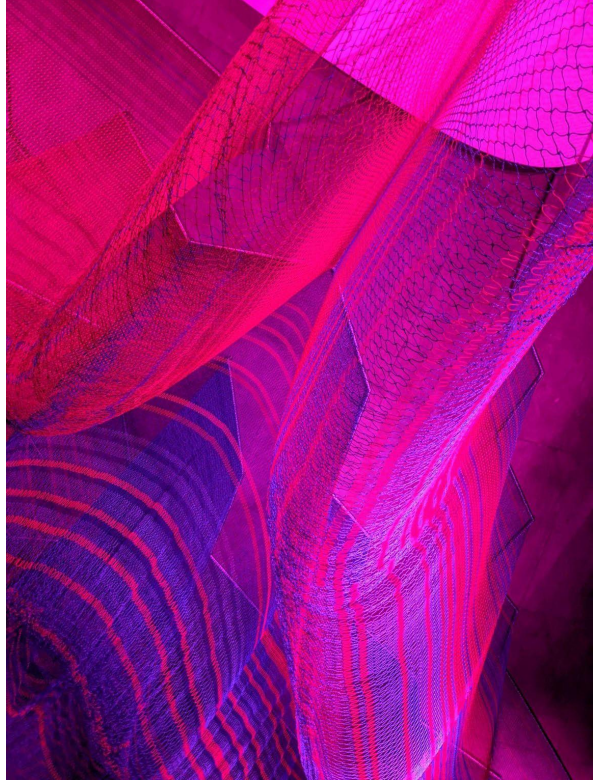
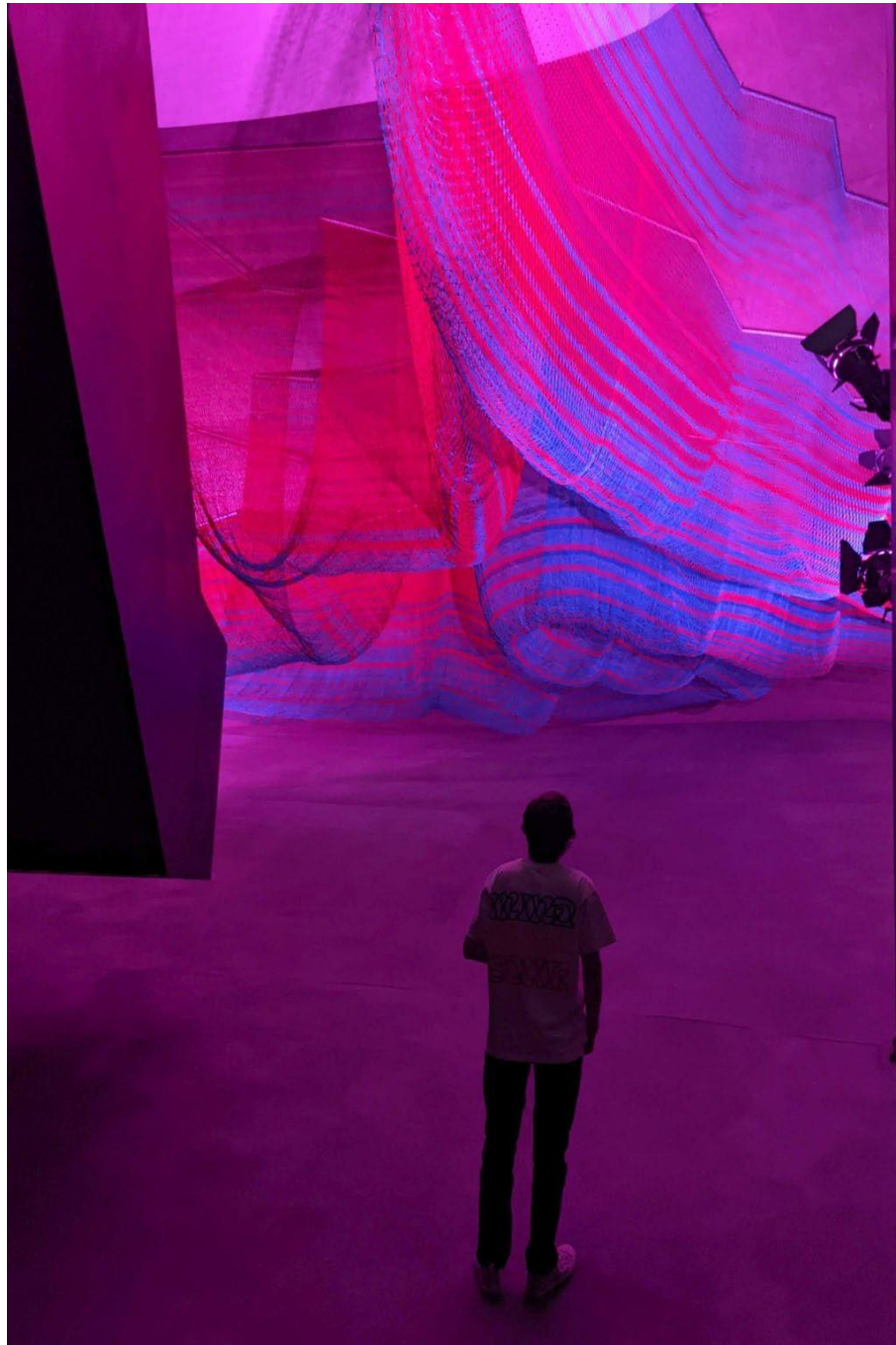
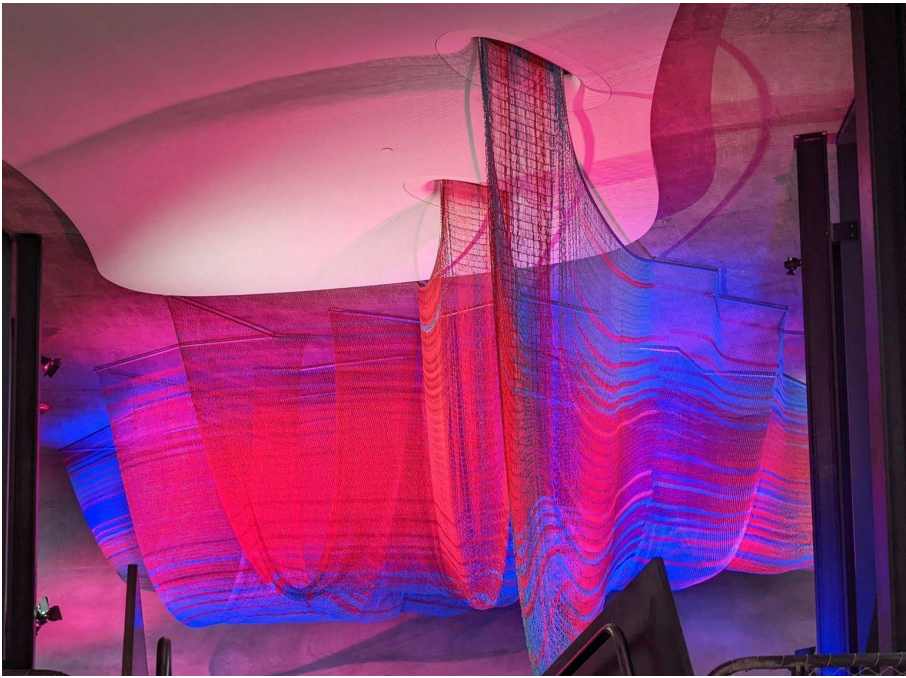
Concept Design
Broad Institute, Cambridge MA
Janet Echelman, 2023



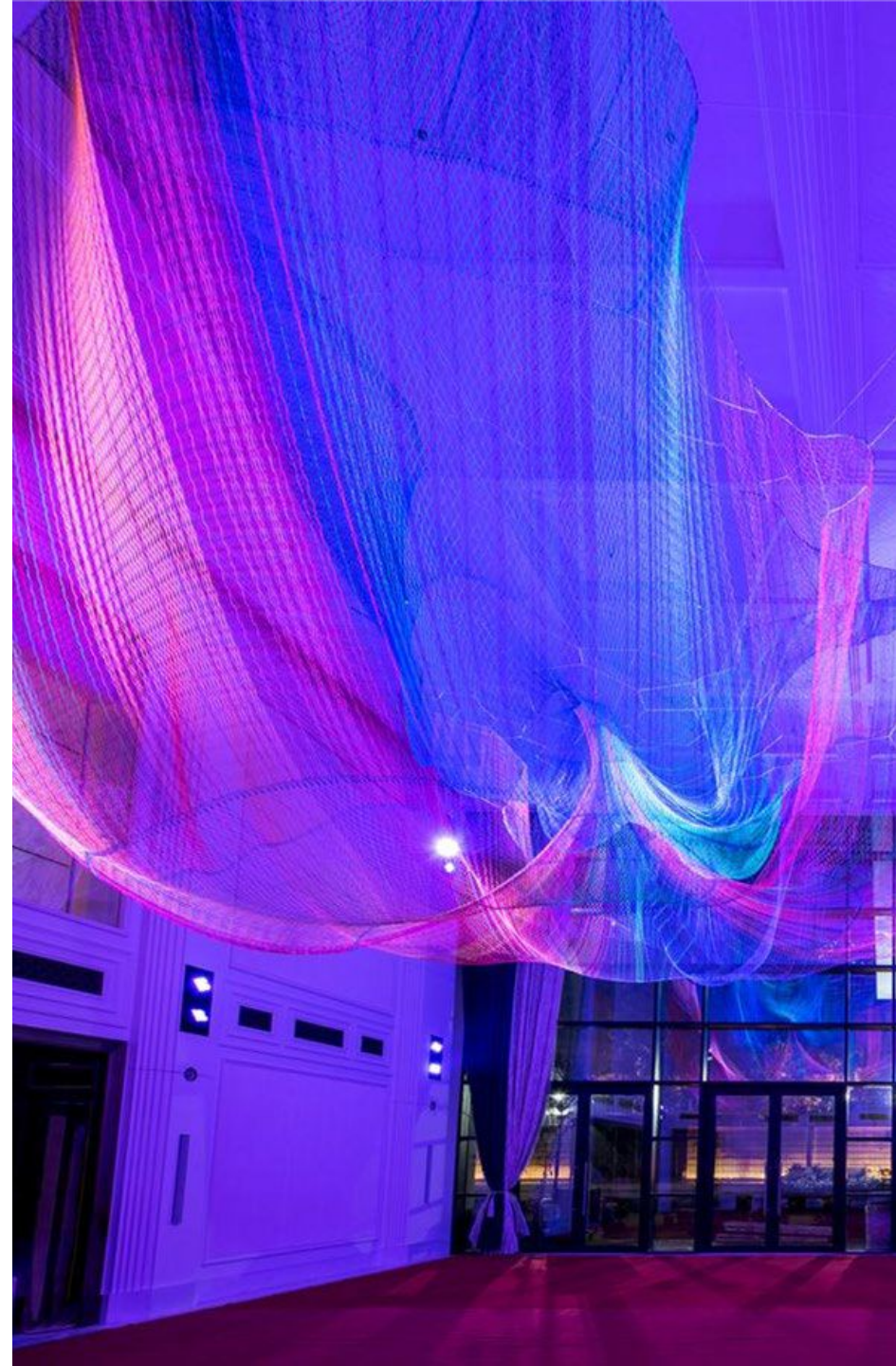
Interior Commission Precedents

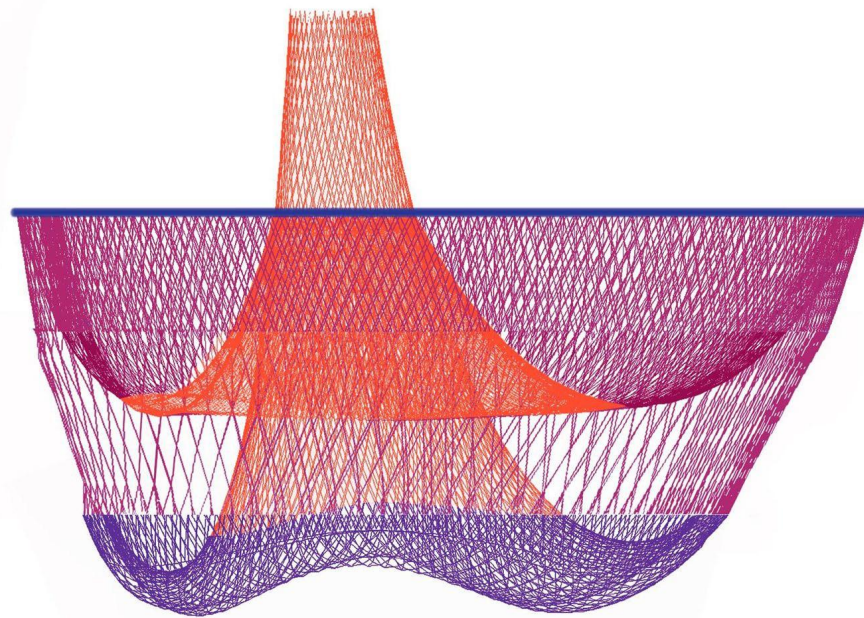
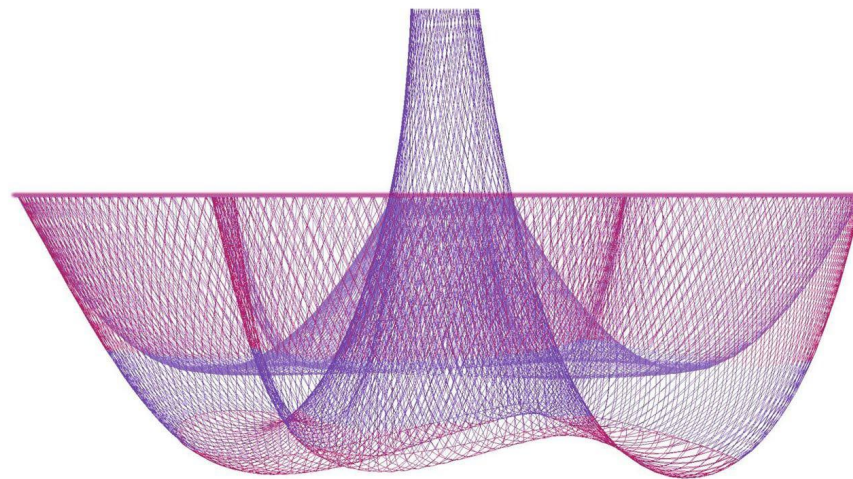
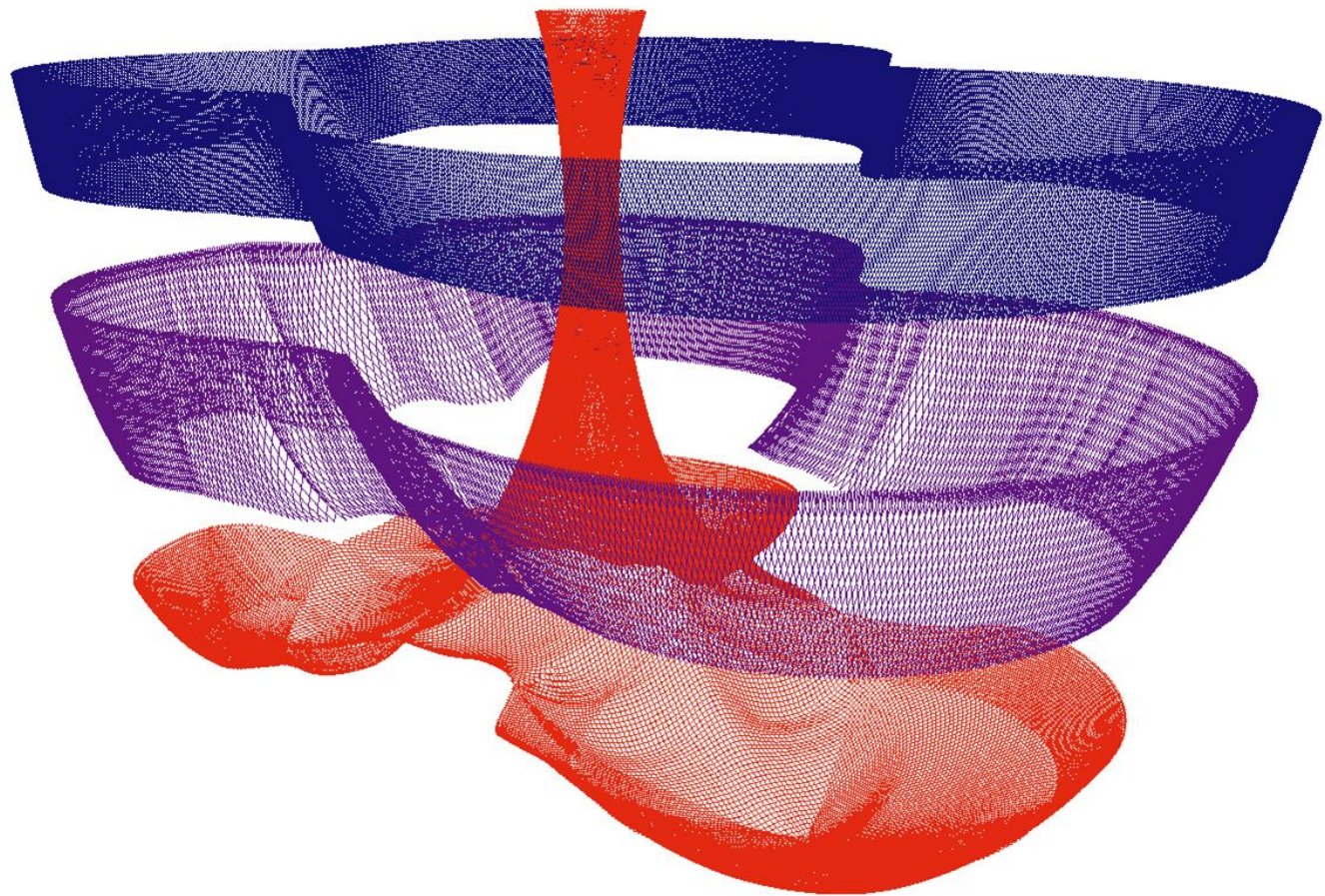


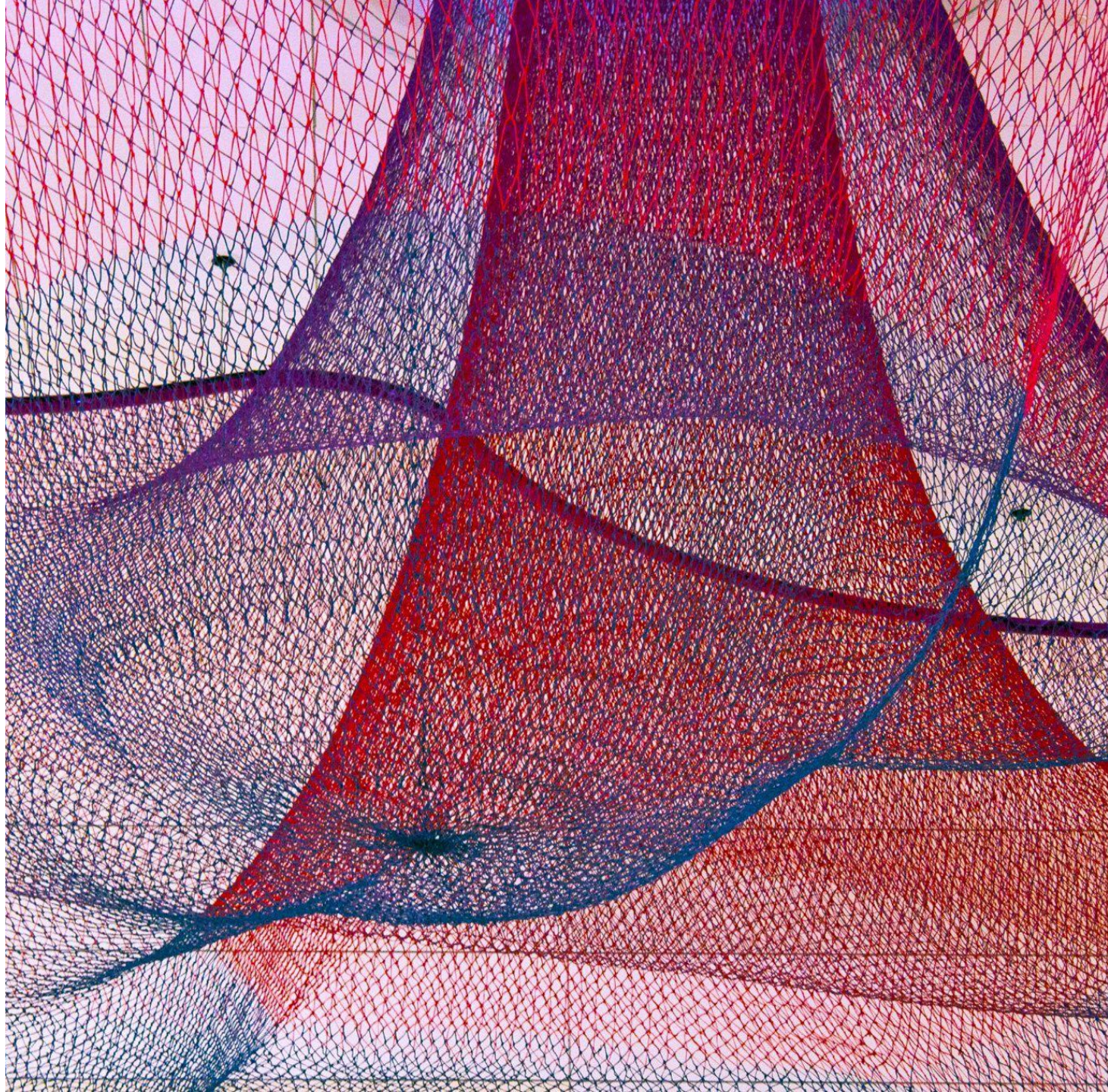


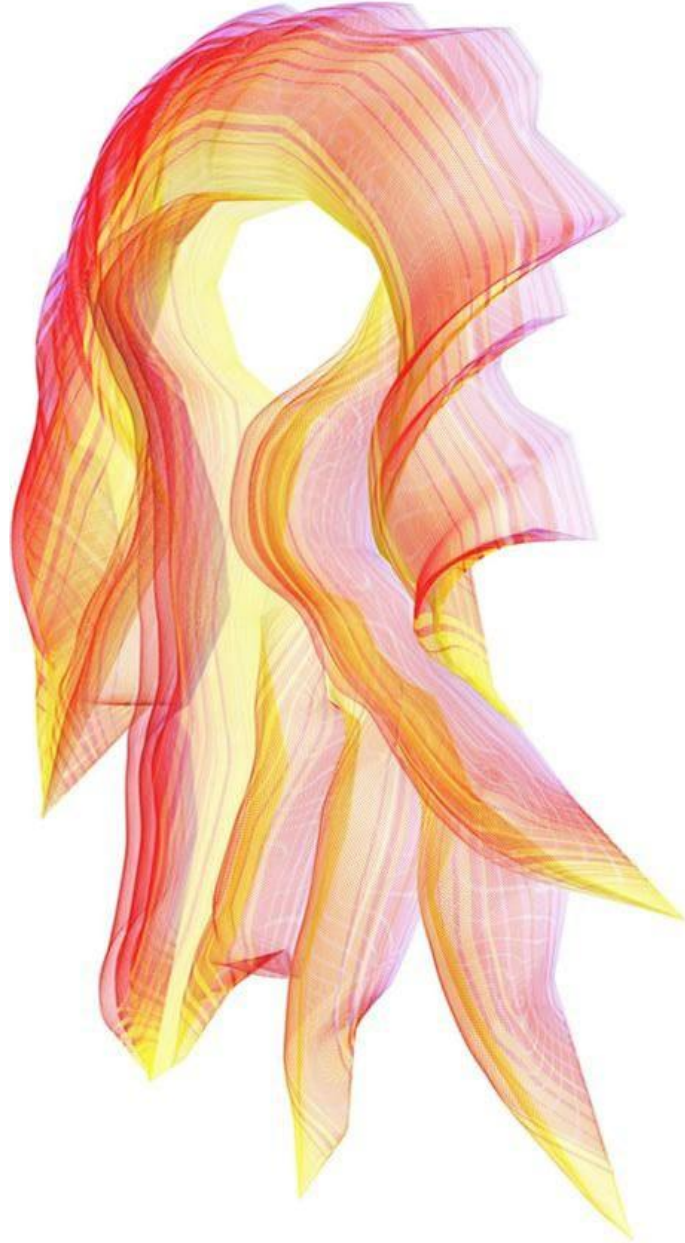










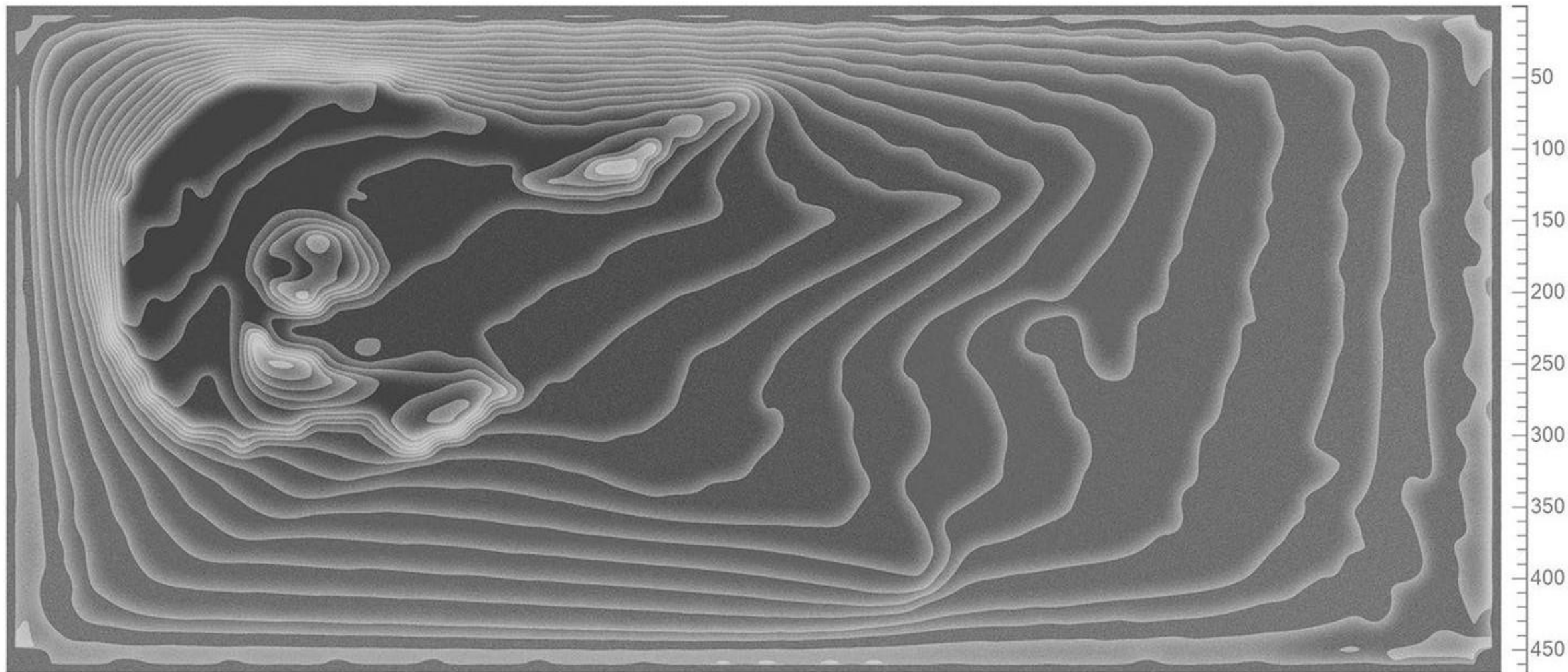








Beynəlxalq Gözlük Mərkəzi



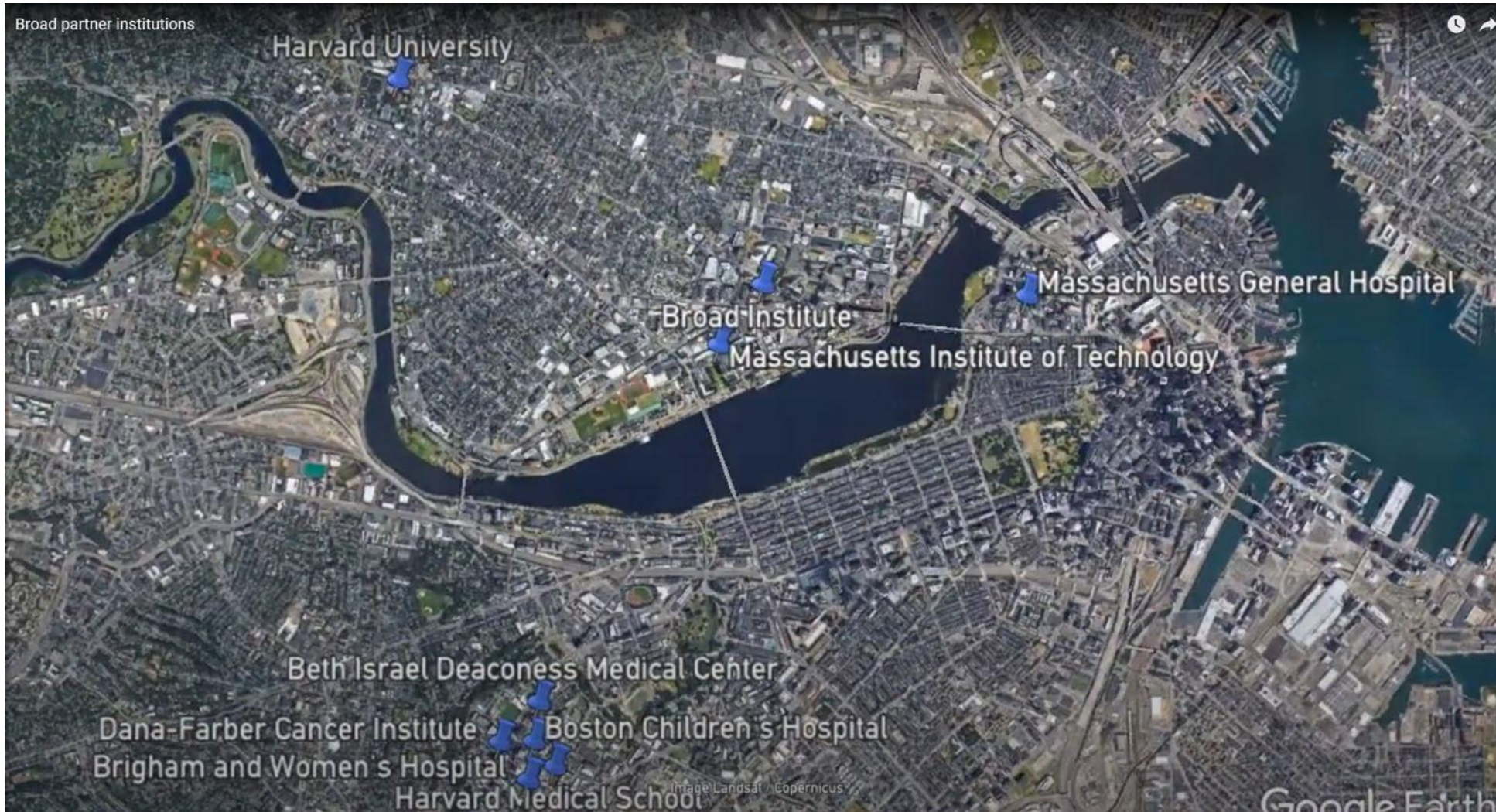
50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050

Design Size: 1083,06"W x 467,00"L (Size Shown: 1083,06"W x 467,00"L)

K33567 1,43%	K33568 6,95%	K33570 12,03%	K33572 13,14%	K33574 11,49%	K33576 2,33%	Blend 1-2 4,83%	Blend 2-3 6,80%	Blend 3-4 12,09%	Blend 4-5 19,52%	Blend 5-6 9,39%

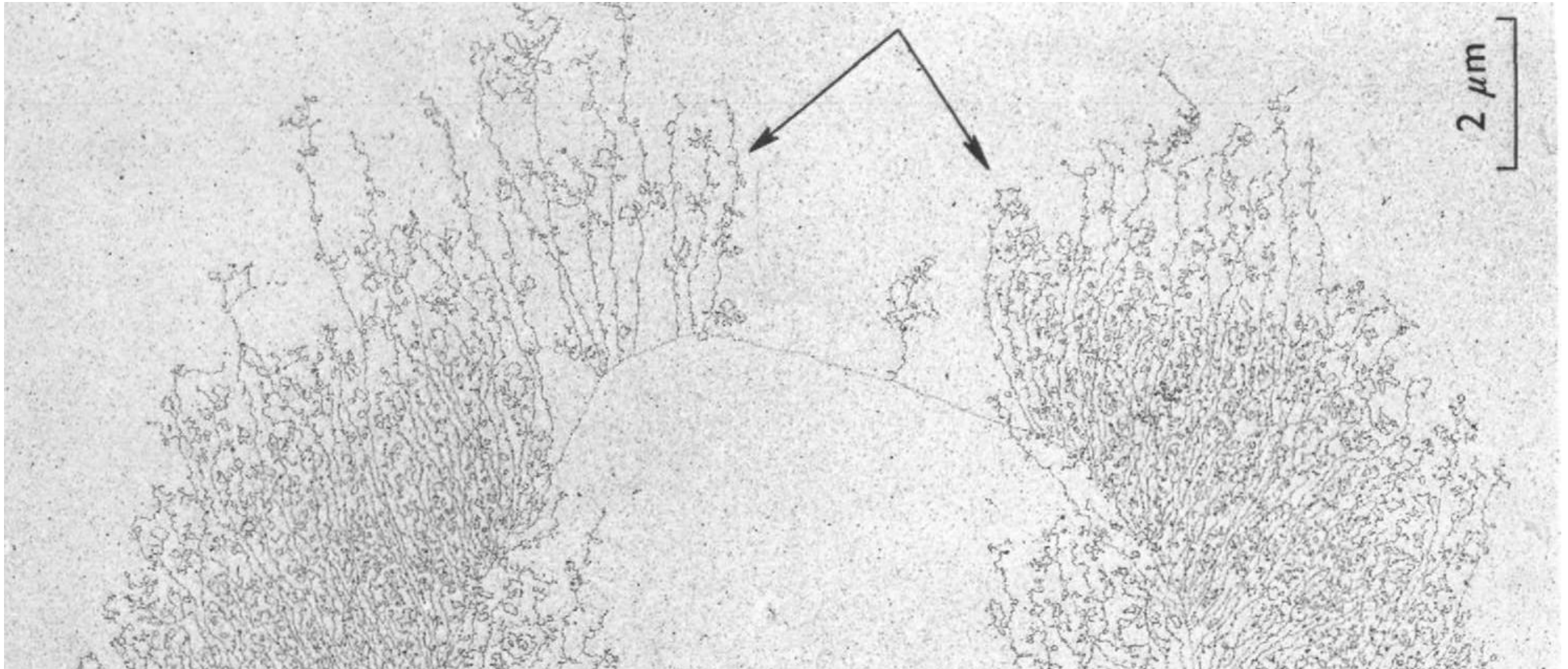
The Potential of Proximity

The Broad Institute brings together disparate research, establishing unexpected connections and novel ideas

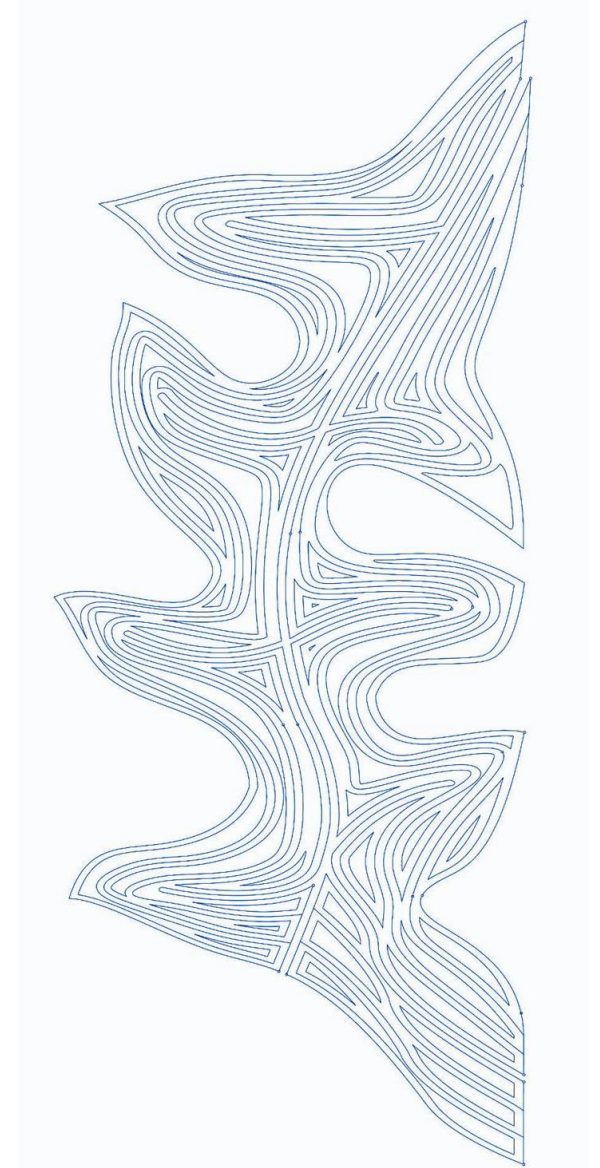
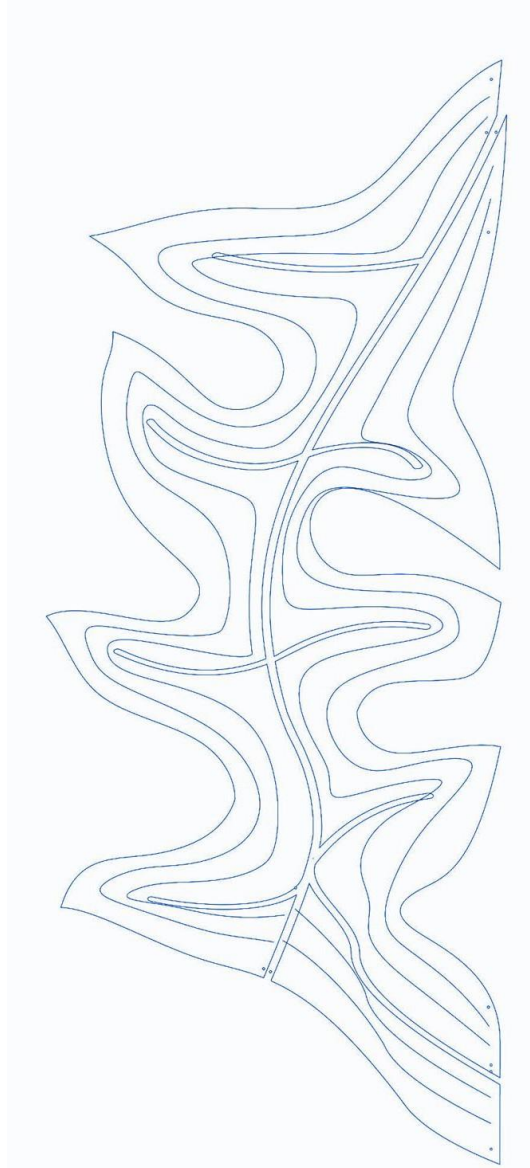
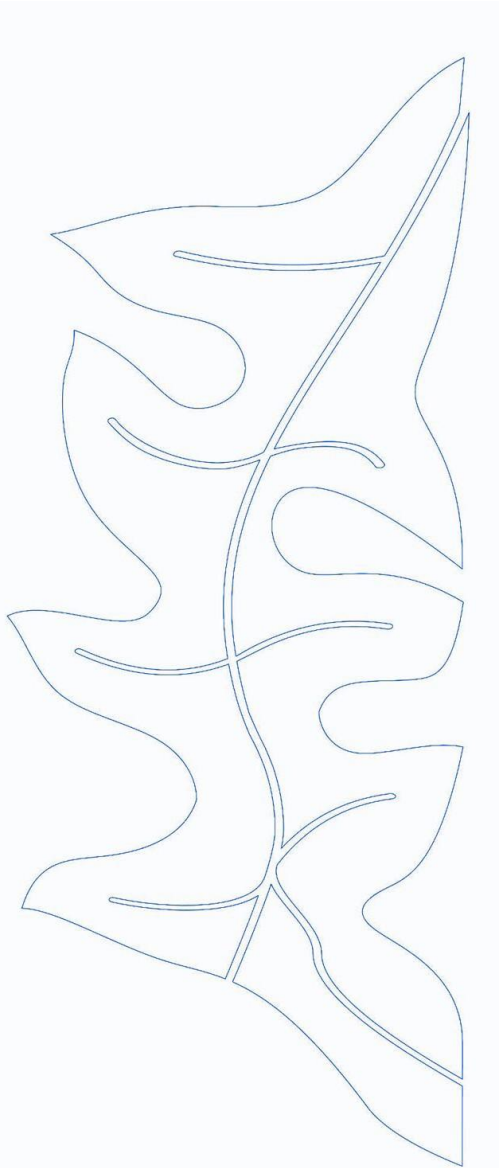


Formal Inspiration: Genetic Structural Processes

Structural processes within each chromosome bring together disparate genes, creating unexpected functionality



Intuitive Sketching for Formal Inspiration: Genetic Structural Processes



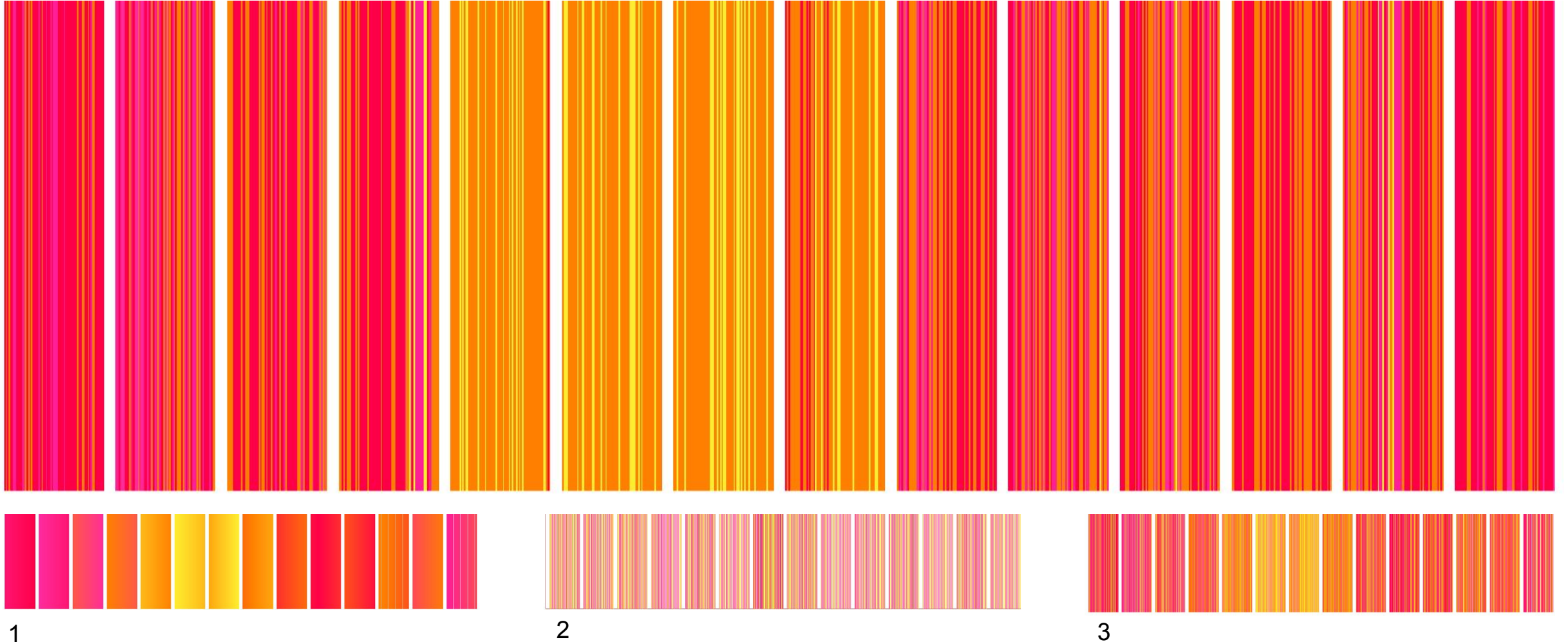
Artist's Husband's Genetic Information

	Peptide ID	Usable long peptide	Length	Mutation	Rank	ccf	hla	TPM	Cys	HLA rank	Pool A	Pool B	Pool C	Pool D
Personalized NeoAntigen Peptides	1 14362-120-01	KKFVIGNIVEAAVRDISEASV	22	RPS26 p.R42G	1	0.93	A0201	0	FALSE	1-A0201	X			
	2 14362-120-03	LRVHLPSSIIYHLLAPSRDIRMVPE	24	MOV10 p.R577H	1	0.96	B3503	42	FALSE	1-B3503	X			
	3 14362-120-10	SLGLRSLKEISDGDVILGNKNL	23	EGFR p.S464L	2	0.88	C0401	396	FALSE	2-C0401	X			
	4 14362-120-13	GFHPPYWQPGPPAPPQNRER	21	PNISR p.GPP190del	2	0.76	C0401	17	FALSE	2-C0401	X			
	5 14362-120-04	ALRTKGIYRVNGVKTHVEKLCQA	23	HMHA1 p.R804H	1	0.71	A0301	14	FALSE	1-A0301		X		
	6 14362-120-05	RVAQYPFEDHNPPQLELNQTL	21	PTEN p.I101fs	1	1	B3503	0	FALSE	1-B3503		X		
	7 14362-120-16	KSQSPLRSMLLVGGLVSLAEHLQHPQSR	29	SPECC1 p.KRKLEE750fs	1	0.22	C0401	43	FALSE	1-C0401		X		
	8 14362-120-02	TDWVRRAVQRVKNKHVGSNMKLLR	23	LRP1 p.A2445V	1	0.44	A0301	29	FALSE	1-A0301			X	
	9 14362-120-18	HPQSRQPPLSHLSSHLTWDAQ	21	SPECC1 p.KRKLEE750fs	1	0.22	C0401	43	FALSE	1-C0401			X	
	10 14362-120-08	RSKFADLTDAAHNAELLRQAK	22	GFAP p.R270H	2	0.06	B3503	2440	FALSE	2-B3503			X	
	11 14362-120-20	LLATKKNIGRFHPYARYENITFN	23	BLZF1 p.T380A	1	1	B2705	0	FALSE	1-B2705				X
	12 14362-120-06	AQYPFEDHNPPQLELNQTL	19	PTEN p.I101fs	1	1	B3503	0	FALSE	1-B3503				X
	13 14362-120-14	SSFDIYTRKGPLVNPKRRELDQ	23	TFB2M p.E281V	2	0.5	C0102	0	FALSE	2-C0102				X
Tetanus Helper Peptide	14 14362-120-23	LMQYIKANSKFIGITELKK	19	Tetanus (Almac's sequence)	9		Tetanus			9-Tetanus	X	X	X	X

Peptide Sequence Translated into Nucleic Acid Sequence	
	{0}
0	AAGAAATTCGTGATTGGTAATATAGTCGAGGCCCGCAGCGGTGCGGGATATATCCGAGGCCAGTGTG
1	TTGCGGGTACATCTCCCGTCGTCTATTTATCATCTGCTAGCTCCATCACGCGACATCCGGATGGTGCCCCGAA
2	TCTCTAGGGCTTAGGTCCCTTAAGGAAATCAGTGACGGTGATGTTATAATTCTTGGGAATAAAAAATTTG
3	GGTTTCCATCCCCCTACTGGCAACCAGGGCCCCCGCACACCACCGCAAATAGACGGGAGAGG
4	GCGTTAAGGACCAAGGGCATCTATCGTGTGAATGGAGTAAAAACTCACGTAGAGAAGTTATGTCAAGCC
5	AGAGTAGCCCAATATCCTTTTGGAGGATACAACCCTCCTCAGTTAGAACTTAATCAAACCTTTA
6	AAGAGTCAAAGTCCACTACGATCGATGTTGTTAGTAGGCGGTTTGGTATCGGTTTTGGCAGAACACCTGCAGCACCCCTCAGAGTCGA
7	ACGGATTGGGTAAGGAGGGCAGTACAAAGAGTTAATAAGCACGTAGGTAGTAATATGAAGTTGTTGAGA
8	CATCCGCGAGTCCCGGCAGCTCCCTGTCTCATCTGTCTTCTCACCTCACCTGGGACGCACAG
9	CGGAGTAAGTTTGCAGTTAACCAGCGCTGCTGCCATAACGCTGAGCTACTCCGTCAAGCCAAA
10	TTACTAGCCACTAAGAAAAATATTGGTCGCTTCCACCCTTATGCGCGGTATGAGAACATCACATTTAAC
11	GCGCAATATCCGTTTGGAGGATCATAACCCTCCGCAGCTGGAGTTAAACCAGACACTG
12	TCTAGTTTCGACATATACACCAGAAAAGGCCCCCTGGTCAATCCTAAAAGACGGGAGCTCTTGATCAG
13	CTTATGCAATATATTAAGGCAAATCCAAGTTTATAGGGATCACGGAATTGAAAAAG

Nucleic Acids:

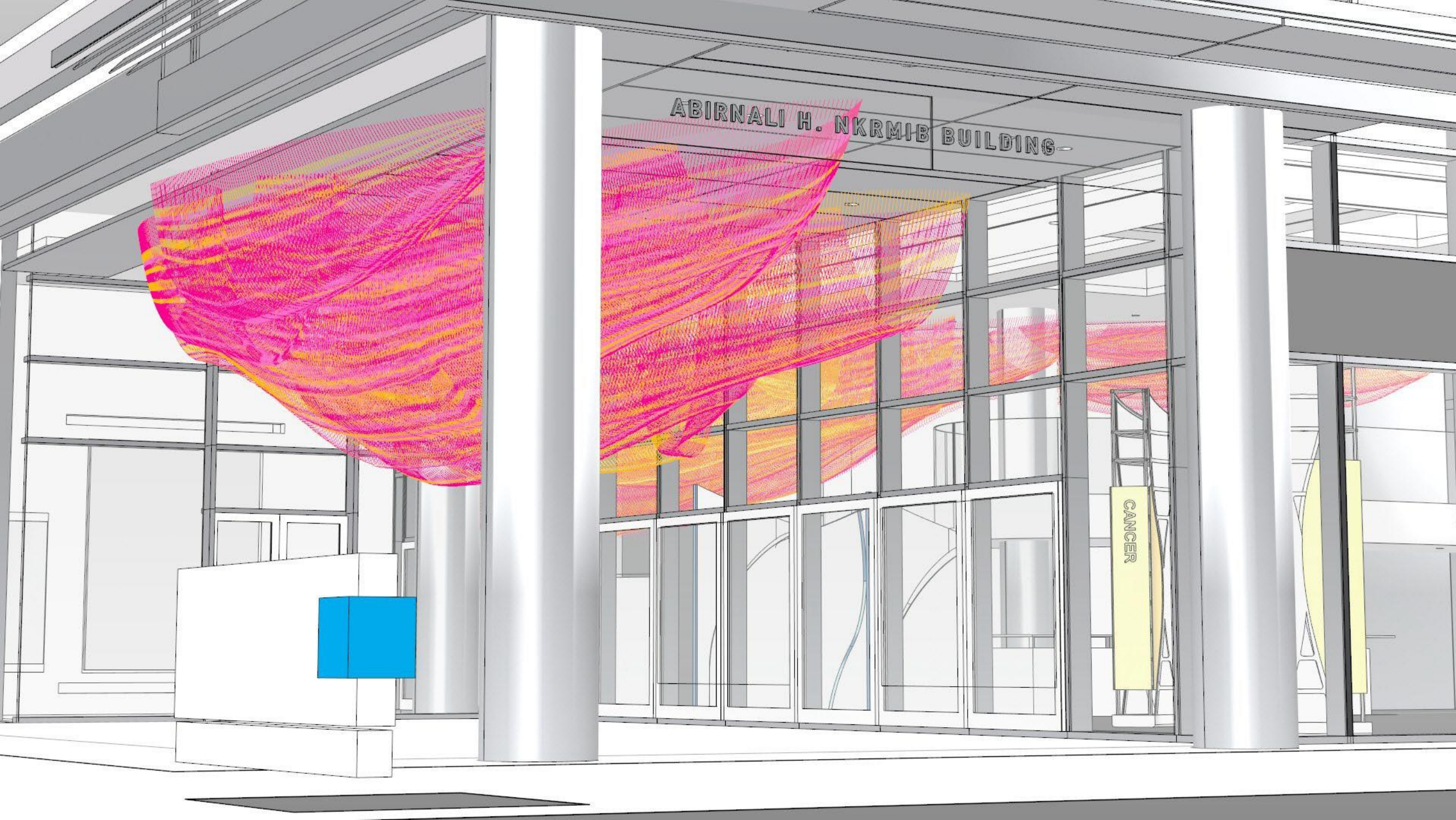
- 1) ATCG represented as 4 value color field
- 2) Nucleic Sequence mapped to pattern
- 3) Patterns combined and translated to loom



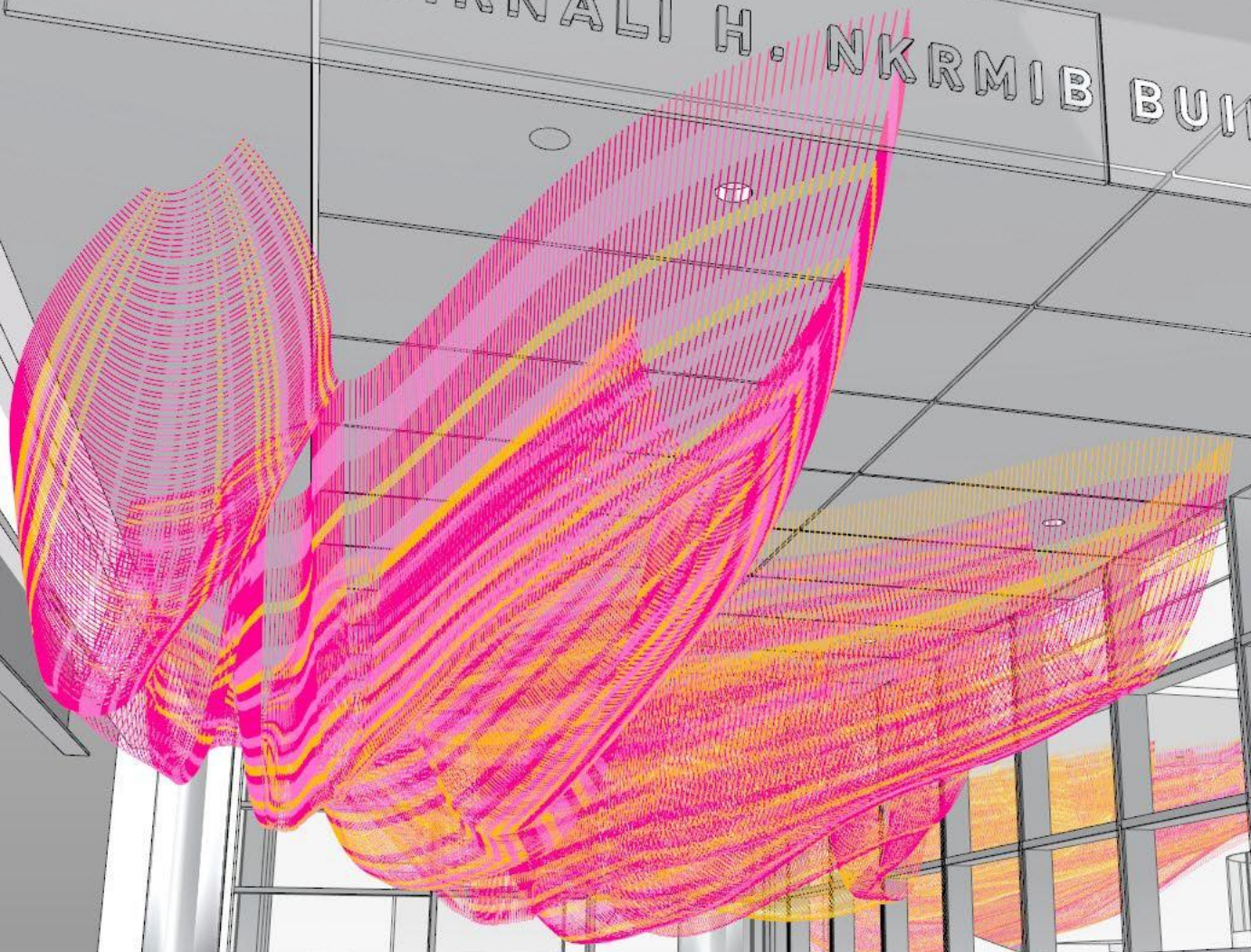


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