

# AHA! ILLUSIONS!

*Can you believe your own eyes?  
Not everything is what it initially seems...*



## EXHIBITION CATALOGUE



## Technical information:

**Number of exhibits:** 29

**Total size:** at least 400-600 m<sup>2</sup>

**Height of the ceiling:** at least 3 metres

**Other requirements:** voltage 230V

**Languages:** 4

**Shipping:** up to 2 trucks (13,6 LDM x2)

## Contact:

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# **Believe your own eyes...or not? In AHHA's exhibition, "Illusions!", not everything is what it initially seems...**

Unbelievable patterns that will make your head spin, glasses that switch the left side to right and right to left, shifting mirrors, vanishing sculptures, water flowing backwards – it looks like everything is actually happening, but is it really?  
Created and built by Science Centre

AHHA in 2018, this new interactive family-friendly exhibition presents you with numerous amazing optical effects and deceptive tricks that look downright magical, but are actually 100% scientifically sound.

## **In this exhibition you'll learn**

- how and why your vision can be tricked in the first place
- how magnificent 3D images are created with the help of LED lights
- how easy (or hard?) it is to paint pictures or wander in the labyrinth – through a mirror
- how images completely change their appearance when you look at them from different angles
- how water can flow backwards



# Exhibits





# MOVING PICTURES

## 3D IMAGERY AND VR

All kinds of floating volumetric images, virtual and augmented realities are a staple of modern science fiction. Some of these things exist in the real world outside of cinema too and can be seen right here.

- 1) LED Cube**
- 2) LED Propeller**
- 3) Pyramid Screen**



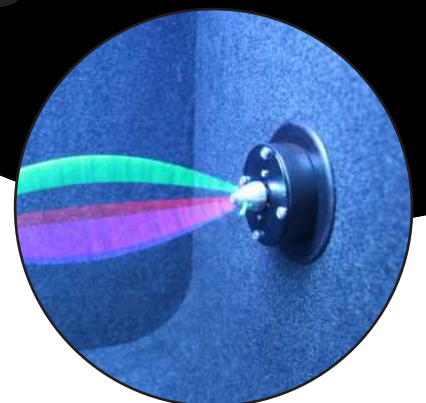
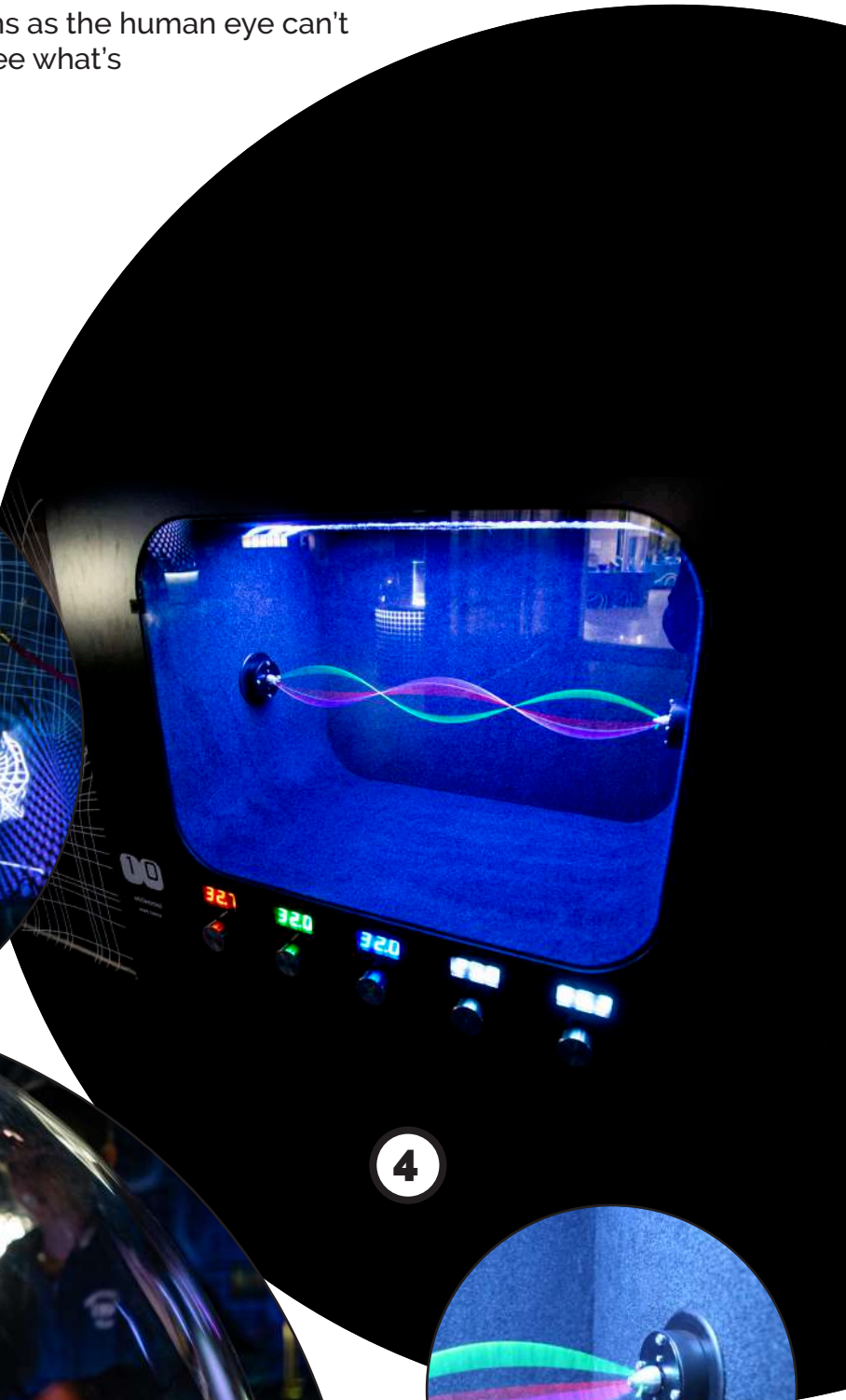
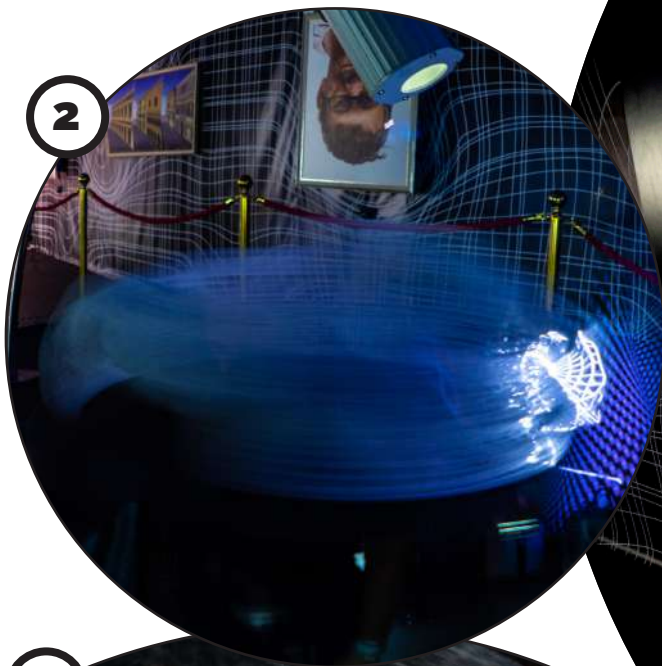


# STROBOSCOPIC LIGHT

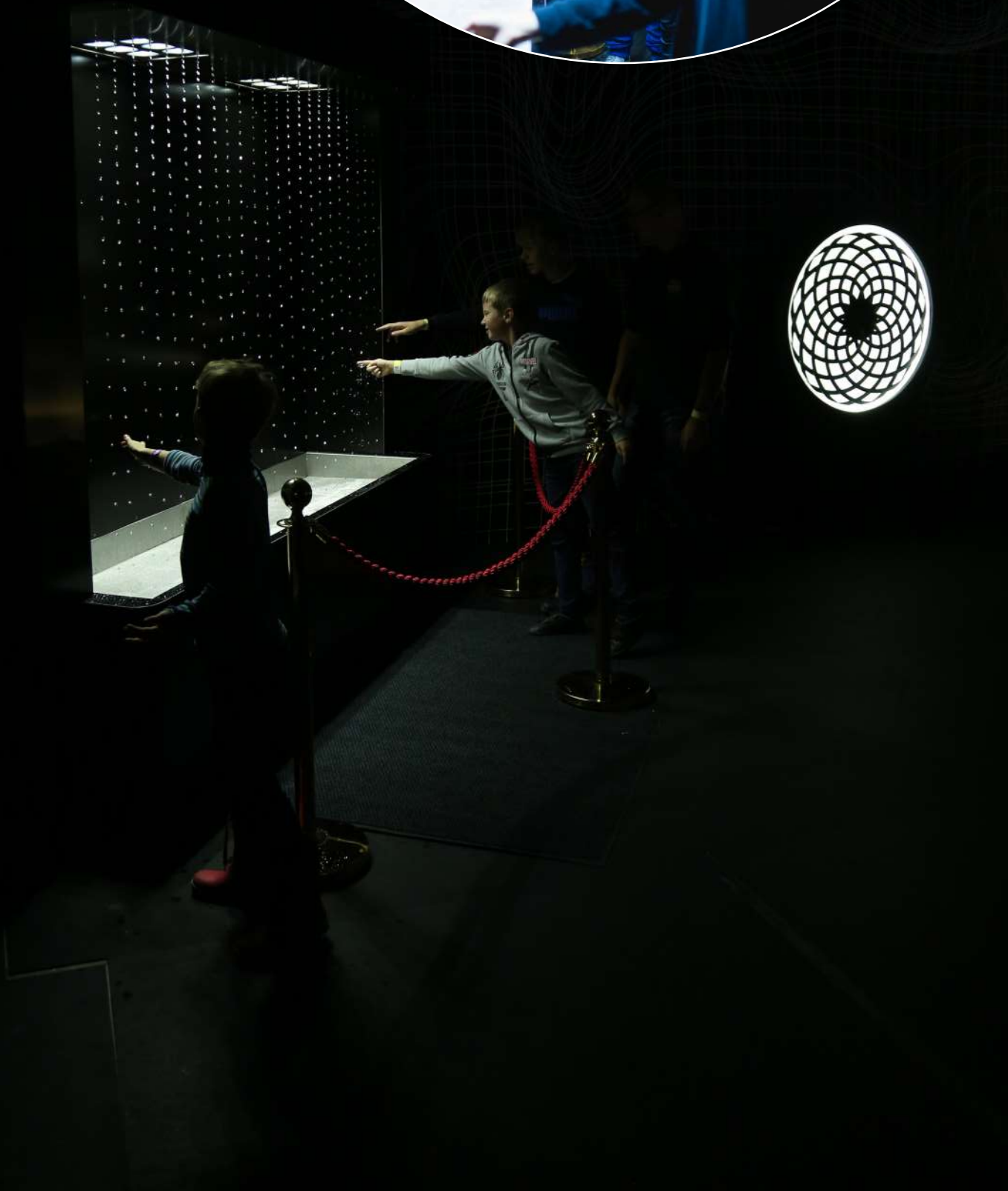
## 3D IMAGERY AND VR

Stroboscopic light consists of continuously repeated flashes of light where the interval between flashes is significantly longer than the duration of the flash itself. This allows to create many motion-related illusions as the human eye can't adapt to darkness fast enough to see what's going on between the flashes.

- 1) Antigravity Water**
- 2) Light Sculpture**
- 3) Wonder Machine**
- 4) Rope Disco - RGB**



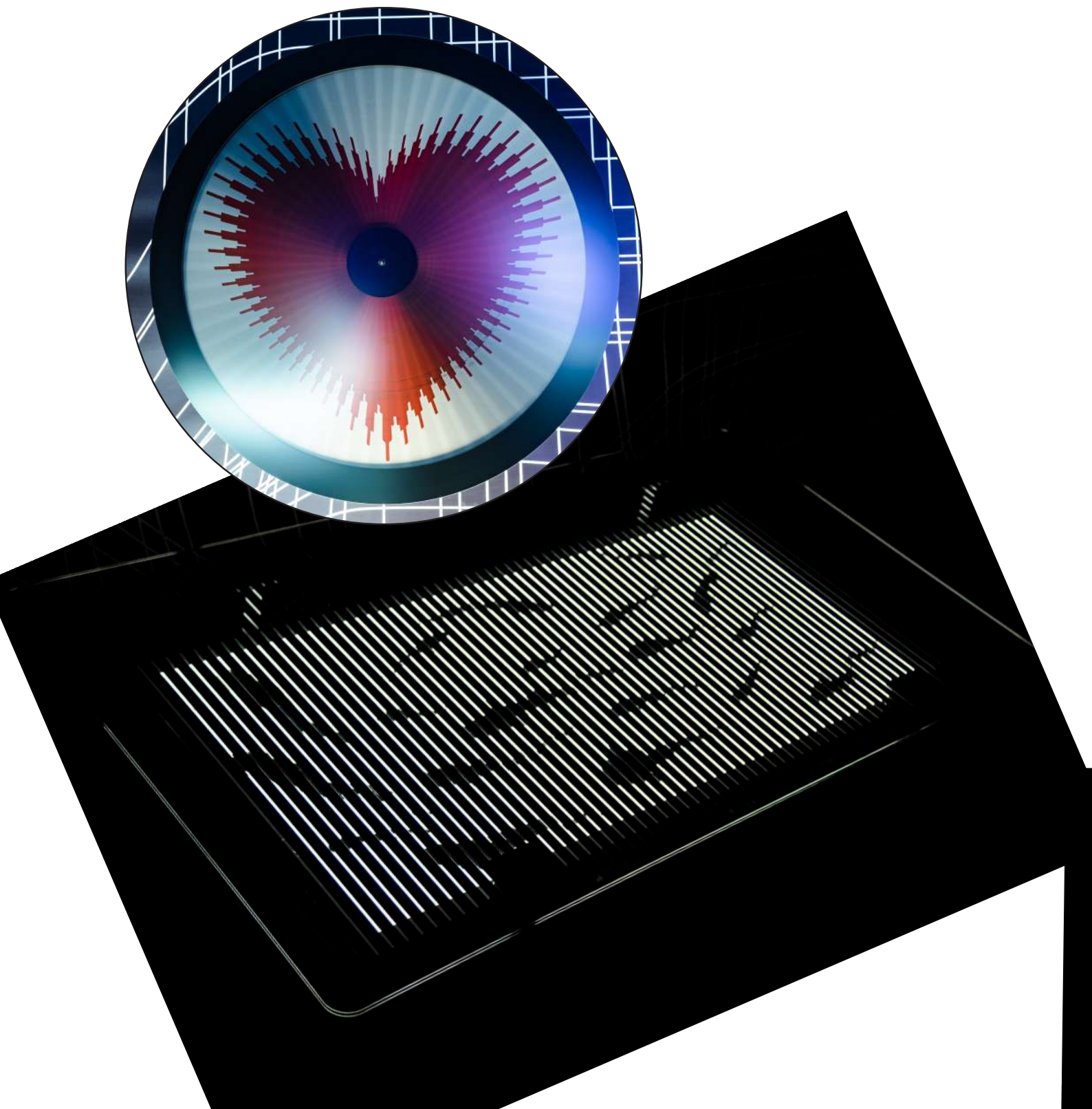
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# MOIRÉ ANIMATIONS

The animations consist of five frames that are interlaced into one image. The grating works as a filter that only selects one of the frames and hides the rest. As you move around, the frame that you can see through the filter also changes and the image appears to move.





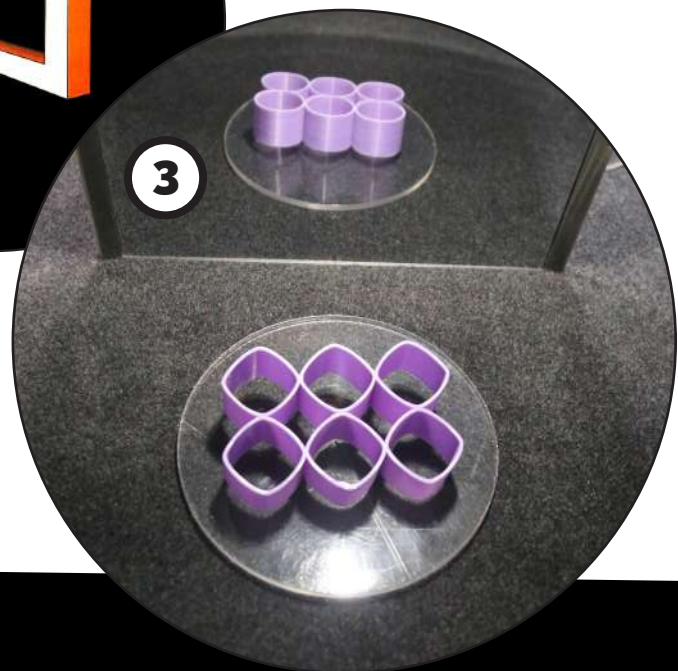
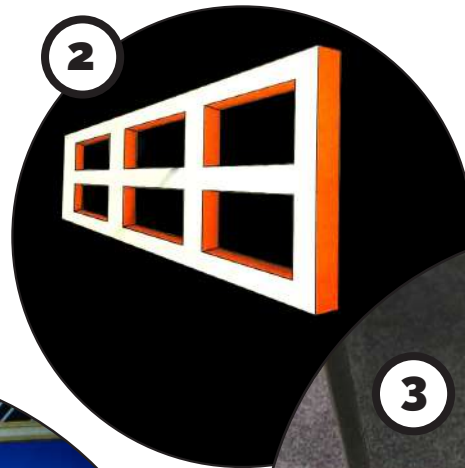
# MIND TRICKS

With our senses – mostly sight and hearing but also smell, touch, taste, balance etc., our brain composes an overall understanding of the world around us. However, the senses can be fooled which usually results in a feeling of discomfort as there appears to be something wrong with the world.

## SPATIAL PERCEPTION

Our direct spatial perception works within a few meters thanks to our two eyes having a slightly different angle of view on nearby objects, giving us depth perception. For more distant objects however, our eyes are too close together and see practically the same angle. In this case our brain will attempt to derive depth based on its existing knowledge, guesswork and hints from the surrounding environment.

- 1) Moore Pattern
- 2) Ames Window
- 3) Ambiguous Cylinder
- 4) Perspective
- 5) Hollow Face
- 6) Selfie Wall





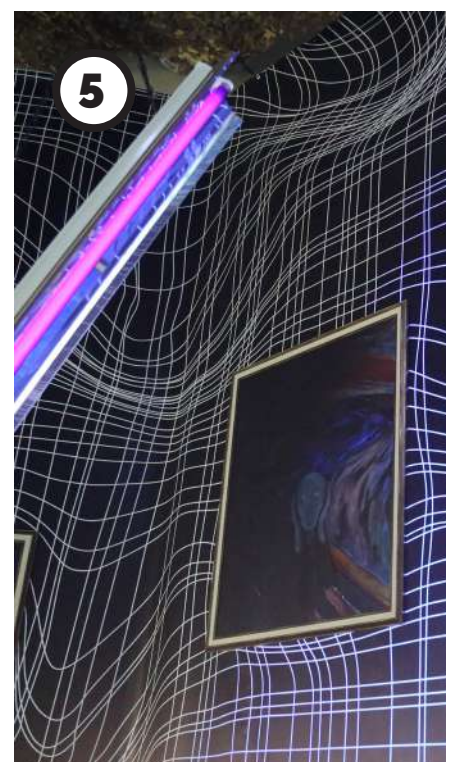
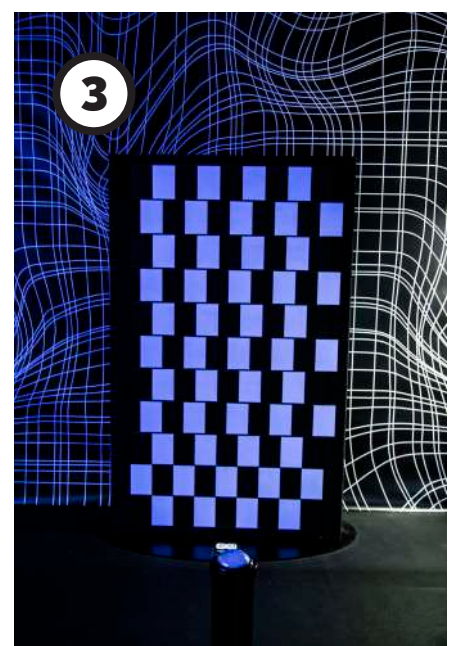




# WHAT'S GOING ON?

**You can't always trust your eyes!**

- 1) Spiral
- 2) Inverted Face
- 3) Café Wall Illusion
- 4) Flying rope
- 5) UV paintings
- 6) Ambigram
- 7) Invisible sculpture









# OPTICAL ILLUSIONS

Light doesn't carry any information with it about the path it took to get to our eye. This is why we can confuse our sight with lenses, mirrors and other objects that change the path of light.

- 1) Interactive Mirror**
- 2) Confused Text**
- 3) Inverted drawing and Maze**
- 4) Hoverboard**
- 5) Ghost Lamp**
- 6) Mirror Illusion**
- 7) Icosahedron**

