

# LUCIFÉRINE



## A performance-installation by Thomas Laigle

*Luciférine* is a **sculptural sound performance for bioluminescent bacteria**. Its name refers to the molecule at the heart of the chemical reaction of bioluminescence, the light emitted by living organisms. In the darkness, a group of humans follow the deployment of these bacteria in liquid form inside a glass sculpture-instrument. As it travels, the living light draws the shape of a chimerical entity and composes a multilayered music by contacting sound sensors. The installation is a real playground for bacteria, providing the oxygen needed for bioluminescence by shaking and moving the glowing liquid. *Luciférine* offers a multi-sensory connection with these microscopic marine organisms which are close to those at the origin of life on Earth.

The work offers a contemplative motionless journey made possible by immersion in sound and light. It's also an exceptional journey: few people have ever witnessed the phenomena of bioluminescence. This artistic approach is now taking on a real contemporary dimension, with bioluminescence being studied for a range of applications, notably in the microbiological medical field, water treatment and plant-based urban lighting.

*Luciférine* also comes in an **installation format**, in which the sculpture-instrument goes into standby mode. Waiting for its bacteria, the installation is then revealed in full daylight, unlike the darkness of the performance mode. Clear water flows through it in place of the bacteriological fluid, and its sounds are reduced to the mechanical clicking of the device. When the installation is occasionally activated (performance mode), the bioluminescent bacteria travel through the sculpture-instrument, revealing all its sound and light potential.

*Luciférine* is an opportunity to depict a desirable world that seems possible, in which humans and non-humans are co-creators.

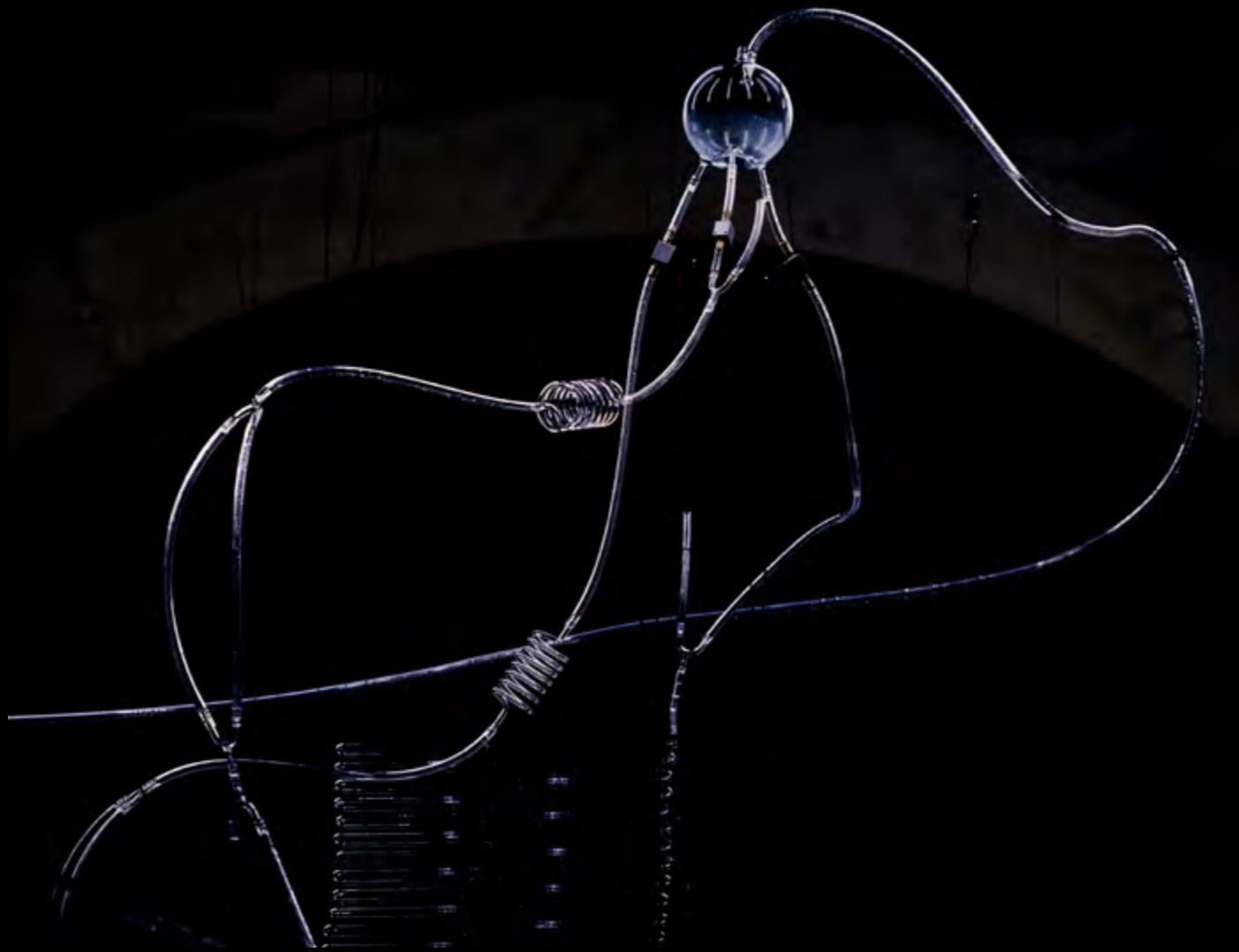
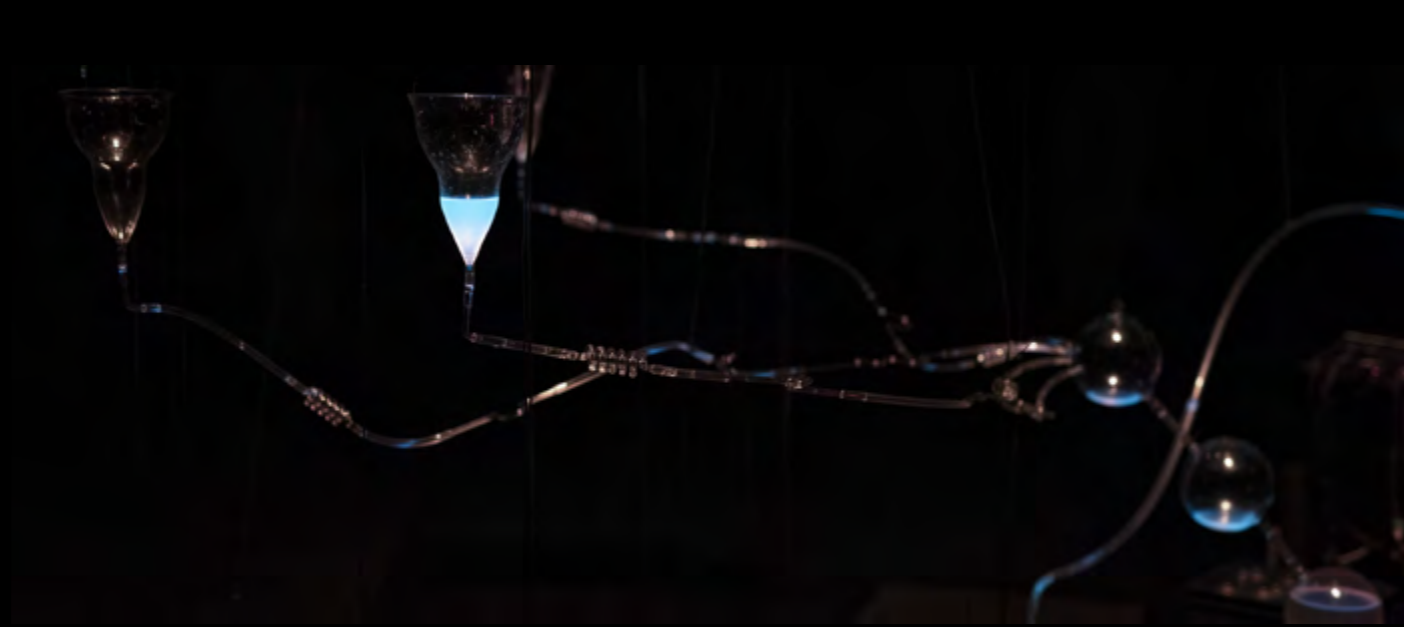
Surprisingly, humanity knows less about the depths of the oceans than about the topography of the planets in the solar system. Similarly absurd, space tourism seems more likely to be democratised before excursions into the abyss. As terrestrial bioluminescence becomes rarer with the massive decline in insects, *Luciferine* is an opportunity to discover this bewitching phenomenon of the deep sea.



### An art/science project, Chromatic and aesthetic features

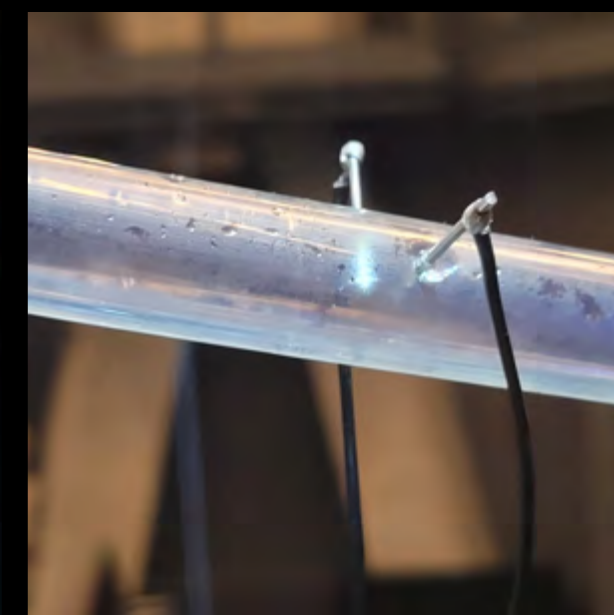
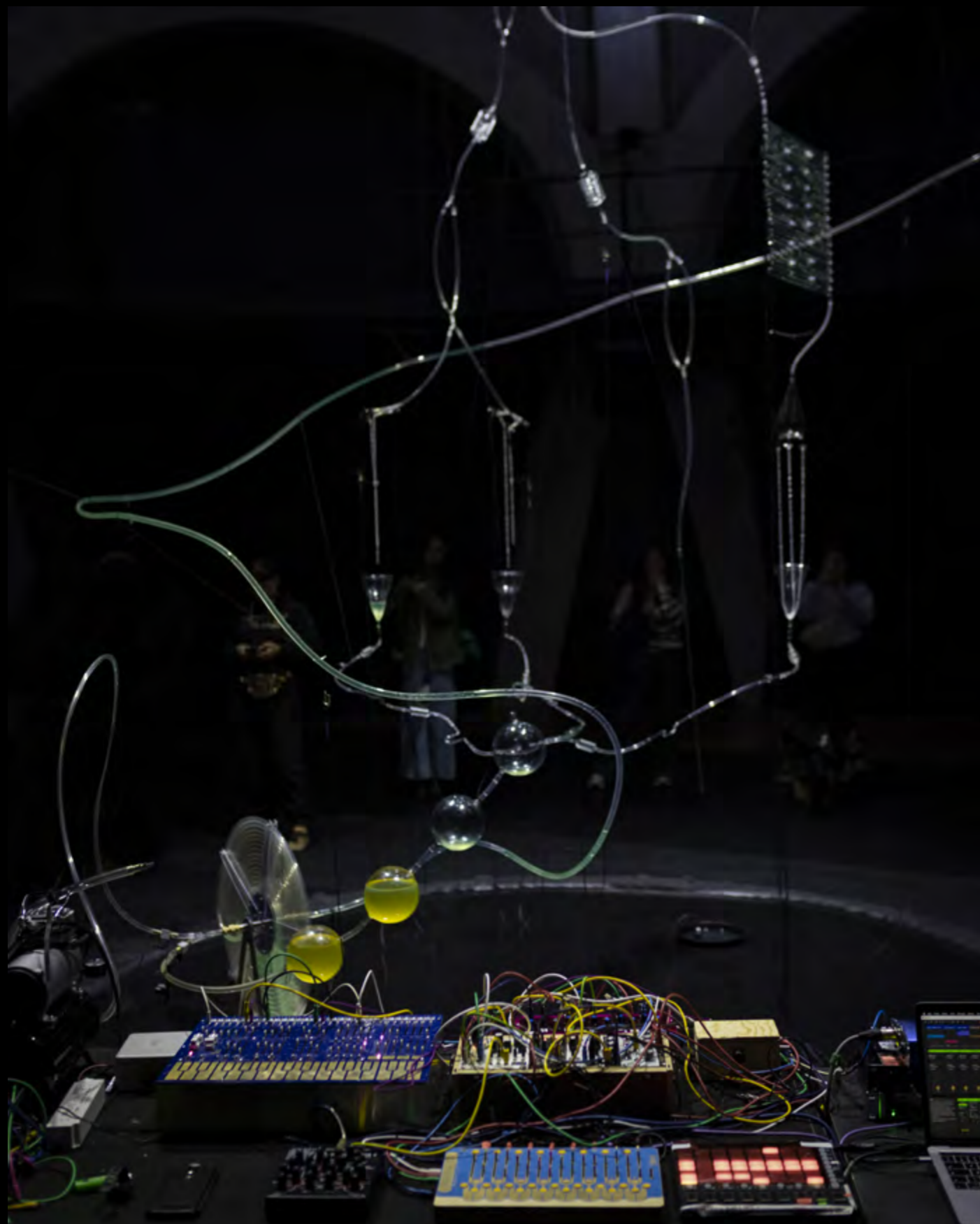
Bioluminescence occurs mainly in the marine environment. The light of *Luciférine* is produced by the culture of a bacterium that has already been widely studied in the laboratory and has shown its ability to adapt to changing external conditions. The bacterium involved is photobacterium phosphoreum ANT 2200, an environmental strain collected from a depth over 2000 metres off the coast of Toulon by Christian Tamburini from the Institut Méditerranéen d'Océanologie (MIO).

As with most deep-sea animals, the light produced by this bacterium is cold both in temperature and colour. This means that it produces no heat, which makes it different from all our artificial lights (electricity, gas combustion, fire...). Chromatically speaking, its limited wavelength is around 490 nm, which is the equivalent of cyan. This specificity gives me the opportunity to expand my palette. By using artificial light in my previous projects, I've been able to create shades of white, yellow, indigo blue and orange. Bioluminescence introduces ethereal blue/turquoise tones. This natural light is much more subtle in its intensity than light from electrical sources. Our eyes have to adjust to this threshold to appreciate all the nuances, just as they do when observing a starry sky.



< TEASER VIDÉO (1 MIN) >

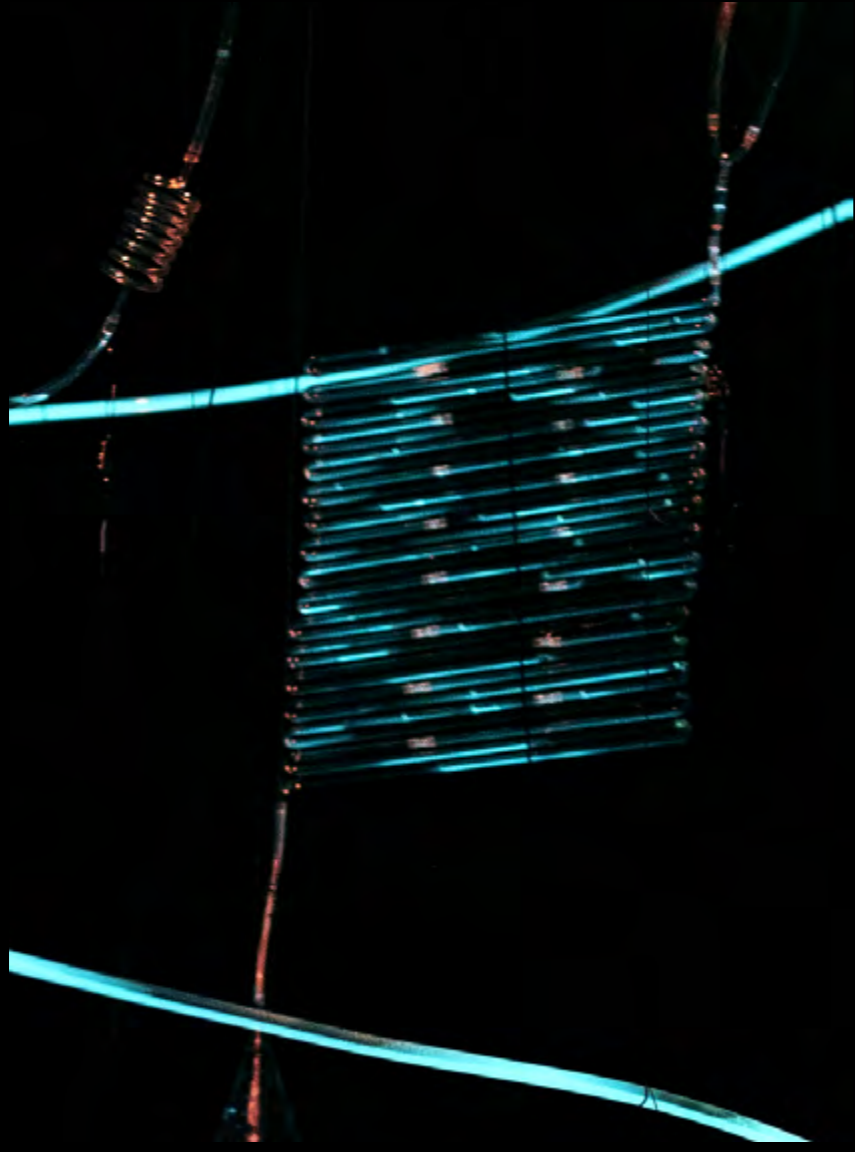




## A musical, living sculpture

The sculpture is 3 metres wide and 4 metres high. It is made up of glass modules connected by polyurethane pipes through which the bacteriological fluid flows. The sound is one of the essential components of *Luciférine*, rather than just an aesthetic support. It combines ambient, electronic and electroacoustic music. This installation is designed as a musical instrument in which bacteria play sounds prepared by a human. The glowing liquid produces sound when it contacts the pins of sensors located along its path. Solenoid valves at the outlet of each glass form control the flow and generate musicality by creating a range of rhythms, from drip patterns to a continuous flow. Fluids in the installation are mainly subject to the natural force of gravity. The fluids are pumped up to the top by a mechanical pump - inspired by an 18th-century Wirz spiral pump - at the lowest point, thus creating a closed circuit. This also stirs up the bacteria, providing them the oxygen they need to produce bioluminescence.

Complete darkness is required to fully experience this phenomenon. *Luciférine*, like a network of clepsydras - antique water clocks - is conceived as a contemplative installation where our spatial and temporal perceptions are altered.



## Thomas Laigle

Thomas Laigle is a sound and visual artist. He lives and works between Berlin and France. Coming from a performing arts background -lighting and sound design- he graduated from Ecole Supérieure d'Art Dramatique du Théâtre National de Strasbourg (FR) in 2013. His work lies at the junction between the performing, visual and digital arts. In the current technological progress where virtuality and immateriality are intensifying, he proposes sensorial experiences with a low-tech approach where light and sound are so interconnected that they become a single medium.

His concerts-performances are presented in France and Europe including appearances in Festival d'Avignon, Stereolux, Biennial Chroniques, Interstice festival, Point Ephémère, Ménagerie de Verre, Galerie Suzanne Tarasieve, Montévidéo-Marseille, Experimance (DE), Liège Electronique (BE), Spektrum-Berlin (DE), Mapping festival (CH), Art Quarter Budapest (HU)...

Since 2020, he creates visual works that combine technology and living beings. He is also co-curating *Soft Incident*, a body and sound performance series in Berlin.





## Team and production

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**Thomas Laigle**

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**Lyllie Rouvière, Tsirihaka Harrivel**

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**Lou Force**

glassblower :  
**Éric Pedditz**

scientific support :  
**Laurie Casalot, Gwenola Simon** (MIO / IRD / amU), **Corinne Vallette** (MIO),  
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**Lueurs Soniques**

production manager :  
**Louise Simon**

thanks to :  
**Jérémie Brugidou, Frédéric Mancini, Clément Rouil, Mickaël Tamimy, Ulysse Bouët, Thierry Botti, Anna Faber, Olivia McGregor**

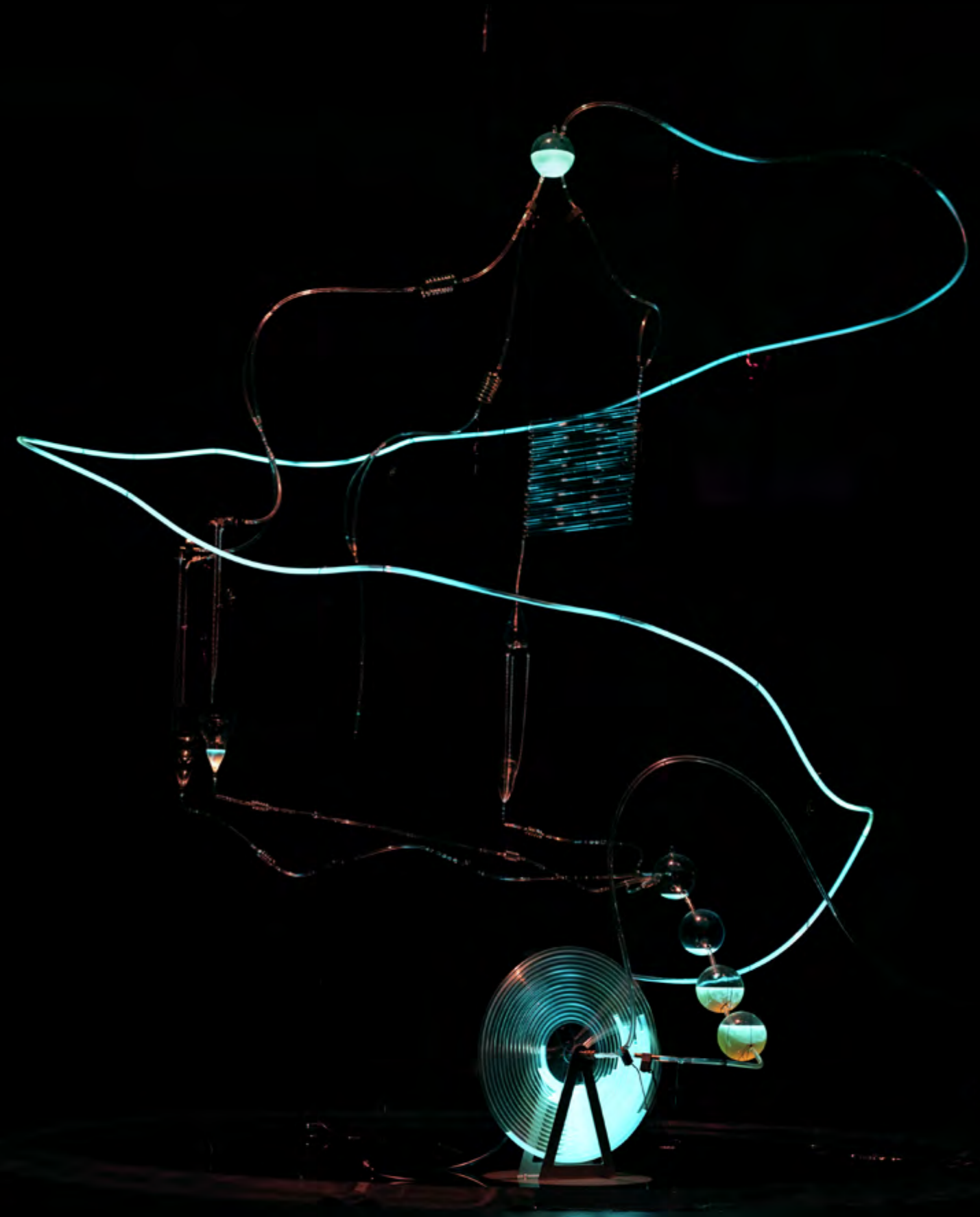
photos by :  
**Sébastien Normand** pages 1, 2, 4, 6 (photos de gauche), 7, 8 et 9  
**Lyllie Rouvière** pages 3 et 6 (photos de droite)  
**Grégoire Édouard** page 5

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