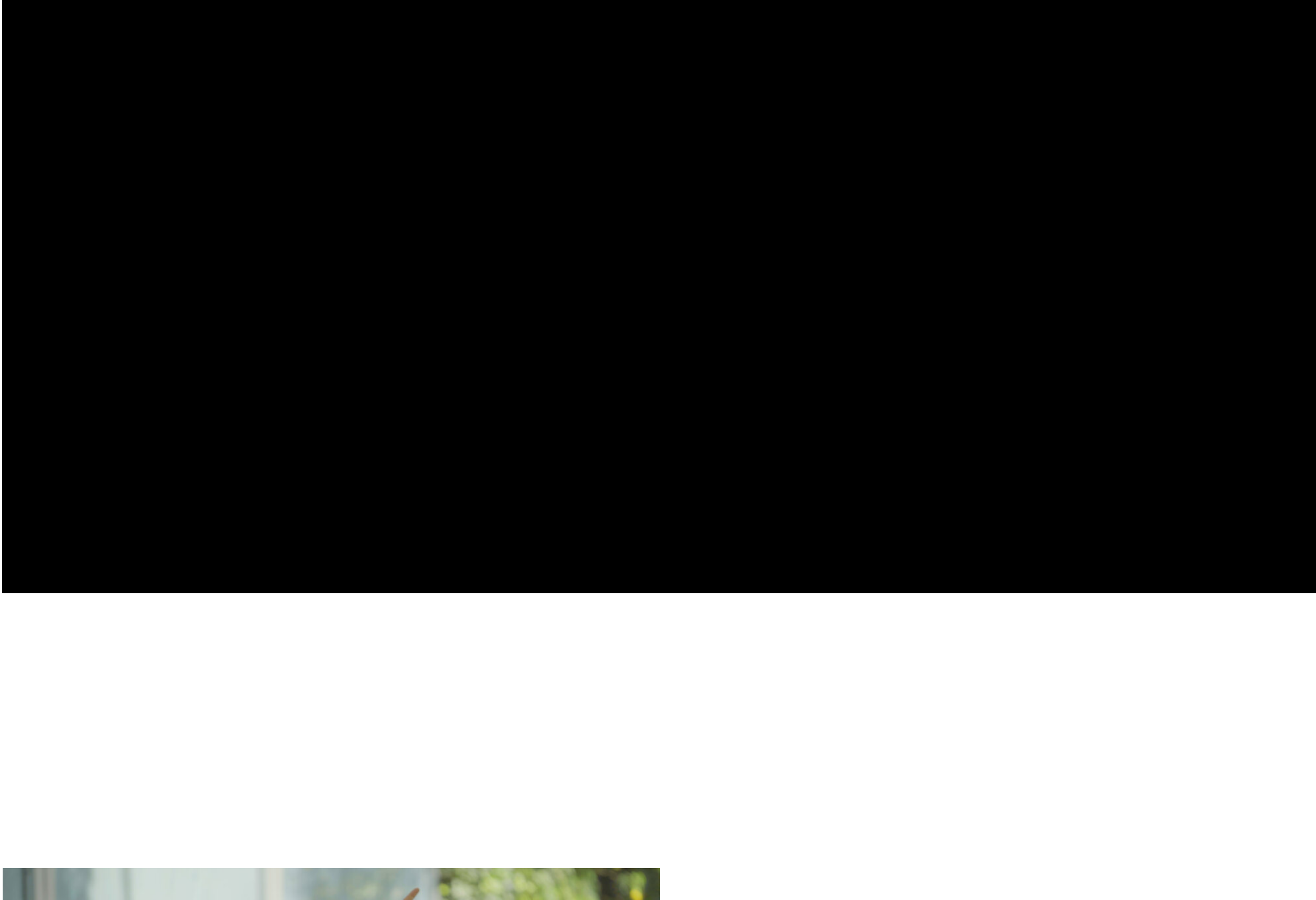


SYMBIOSIA

Real time uncovering the symbiotic relationship between trees and their environment



In collaboration with professor Stefano Mancuso we created an artwork that uncovers the symbiotic relationship of trees and their communication in times of climate change

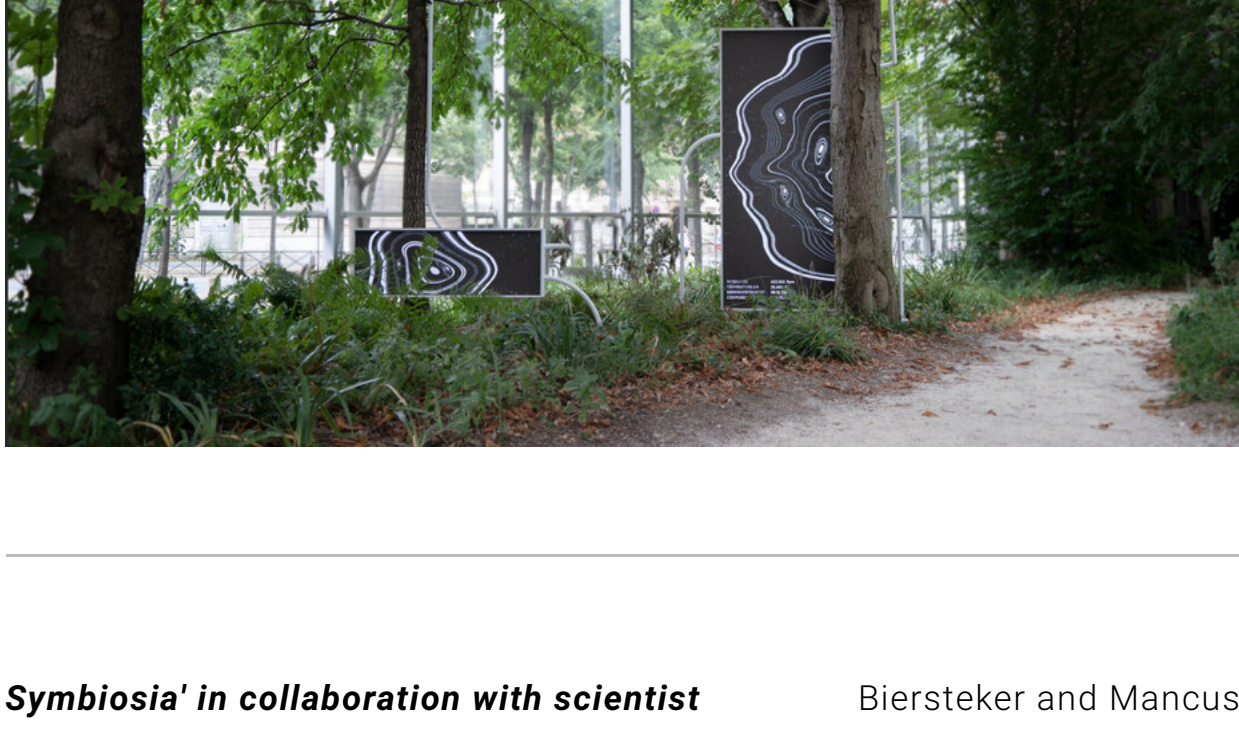
In the garden of the Fondation Cartier pour l'art contemporain, 12 sensors are connected to 2 trees.

Where real time tree "communication", extensive photosynthesis calculations and CO2 fluctuations



Where an algorithm generated a climate and tree communication influenced tree ring ever second.

Giving nature a visual voice in times of climate change.



Symbiosia' in collaboration with scientist Stefano Mancuso, was the opening work of the exhibition Trees that opens on 12 July 2019 at Fondation Cartier pour l'art contemporain, Paris.

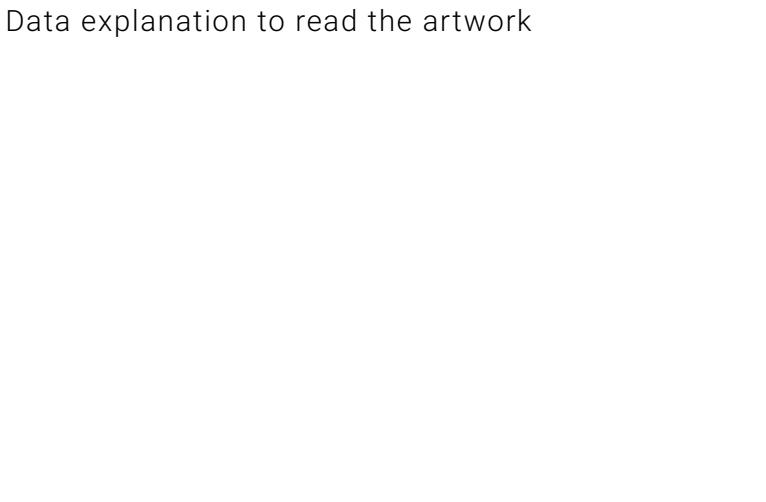
With the premiere of 'Symbiosia' we give two trees in the iconic garden of Fondation Cartier a visual voice about one of the most important topics of today, climate change. The work addresses the relationship of the trees with the visitors, the environment and each other.

The real time data installation is a collaboration between artist Thijs Biersteker and world renowned botanist and scientist Stefano Mancuso and his International Laboratory of Plant Neurobiology in Florence. As a pioneer of plant neurobiology he is an advocate of the concept of plant intelligence. Mancuso provided the science behind the artwork.

Biersteker and Mancuso have developed a calculative data driven system that estimates the real time impact that climate change has on the nature of Paris, generating a tree ring every second, instead of every year. The daily traffic jams rising up the co2 levels, and droughts caused by increasing summer temperatures have an instant effect on the work. Trees document their lives through their annual growth rings hidden behind their bark. The thickness and shape of the rings reveal environmental changes and disease, forest fires, droughts and pollution levels throughout the tree's life

"Working with Thijs Biersteker was an inspiring experience. Thijs is the kind of person you dream to find when you want to transpose a scientific idea into an artistic event."

— Stefan Mancuso



Data explanation to read the artwork

Digital roots crawling between the two trees and their branches contain a series of 12 sensors to measure fluctuations in the trees photosynthesis, the air quality and chemical aircompounds, producing the datavisualization in the shape of tree rings. The short and long term impact of climate change can be deciphered in the work, and takes into account the recent discoveries about root communication and the idea of plant memory.

Commissioned by
Fondation Cartier pour l'art contemporain

Collaboration
Stefano Mancuso

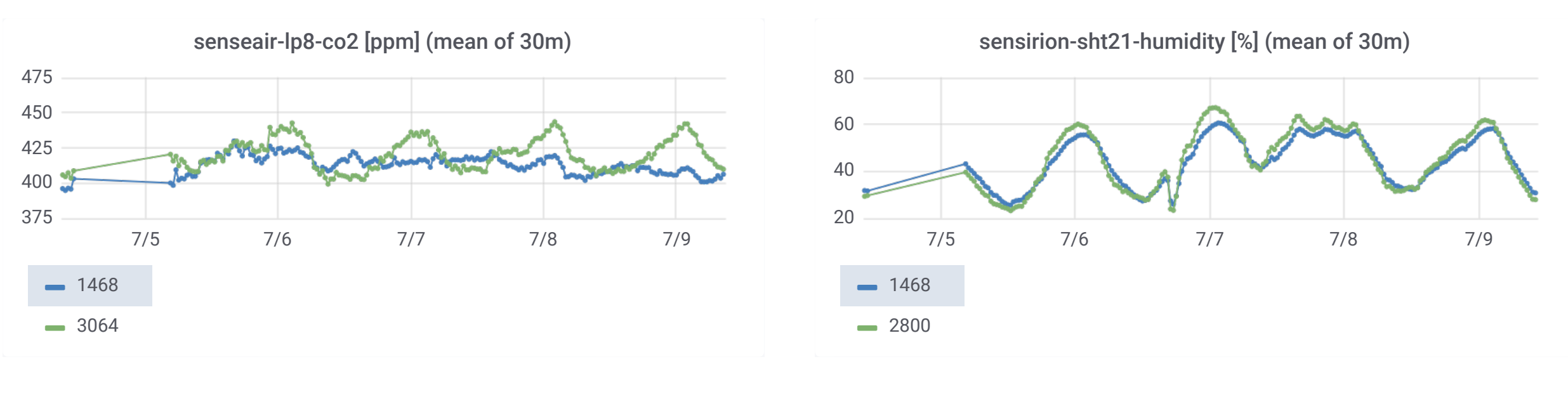
Curators
Hervé Chandès, Bruce Albert, Isabelle Gaudefroy, Helene Kelmacher

Head of studio
Sophie de Krom

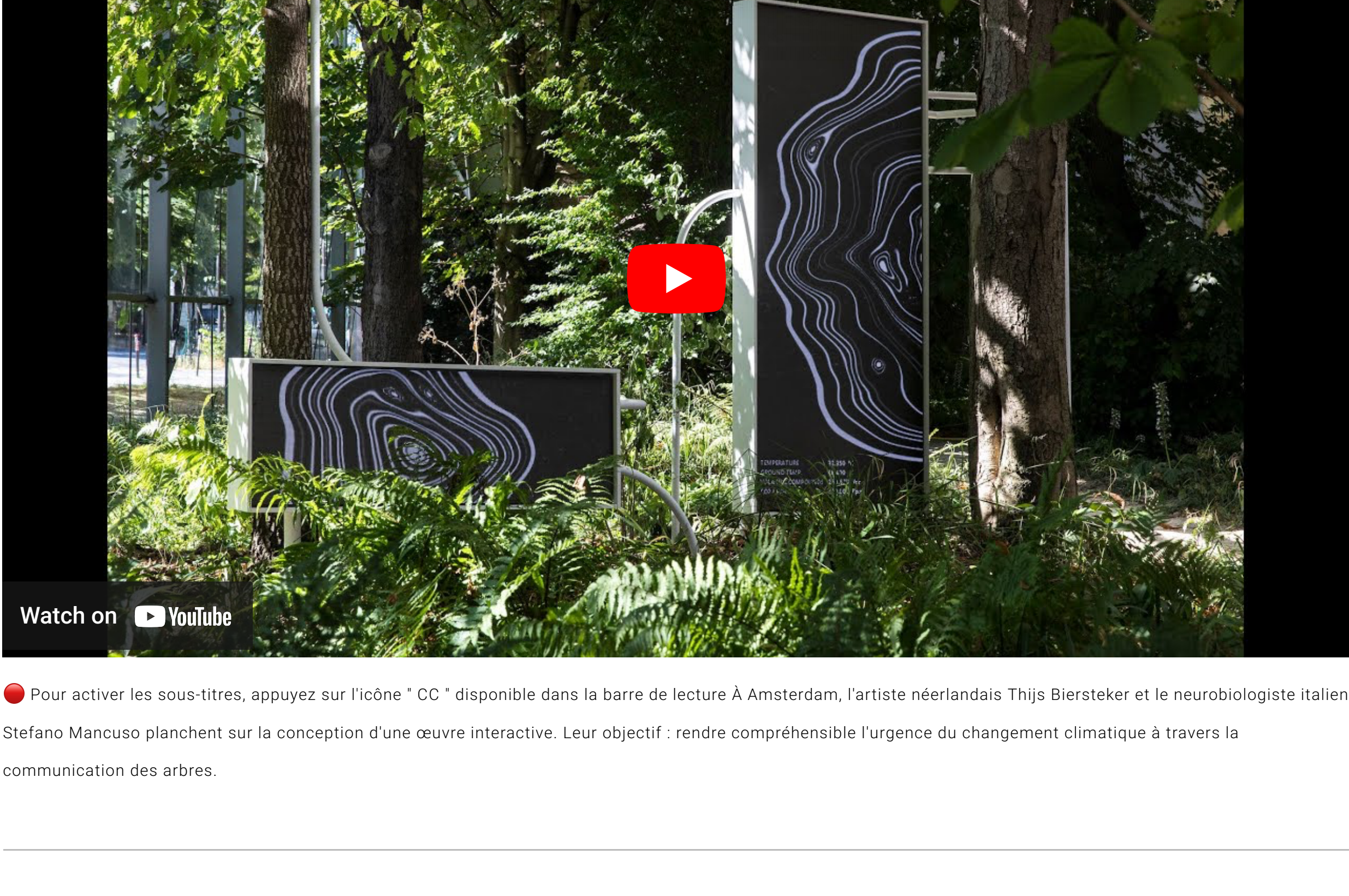
Technical design
Boompje studio

With special thanks to
Decent Lab, Kvadrat , Kees Plattel , Casper van der Meer, Matrix Metaalbewerking, End of Time


Live data from the installation in the garden of the Fondation Cartier



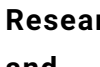
The making off documentary



Thijs Biersteker & Stefano Mancuso - Web-série « Nous les Arbres » - Épisode 2/5

Watch on 

Pour activer les sous-titres, appuyez sur l'icône "CC" disponible dans la barre de lecture. À Amsterdam, l'artiste néerlandais Thijs Biersteker et le neurobiologiste italien Stefano Mancuso planchent sur la conception d'une œuvre interactive. Leur objectif : rendre compréhensible l'urgence du changement climatique à travers la communication des arbres.

 Collaboration Research and collaboration	Collaboration Stefano Mancuso	Partner Delft Technical University	International Laboratory of Plant Neurobiology
	Financial Times Trees at Fondation Cartier, Paris – a mind-bending trip through the forest	Dezeen Digital artwork called Symbiosia depicts effect of climate change on trees in Paris	New Scientist Trees demand equal status in a new Paris gallery show

