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# I-Weather as Deep Space Public Lighting

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2010

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Project by fabric | ch

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Funding: O1SJ Biennial (USA)

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Location: San Jose City (CA, USA)

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With the support of Swissnex San Francisco and Pro Helvetia. I-Weather is an initiative jointly developed with architect Philippe Rahm

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Exhibited during the O1SJ Biennial (San Francisco Bay Area, CA, USA)

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- I-Weather artificial and networked climate used for the illumination of (speculative) public spaces
  - Metabolic lighting for deterritorialized and extra-planetary environments
  - Public lighting as a physiological device
  - Open-source technology for public spaces
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- I-WaDSPL program, clock, and interfaces
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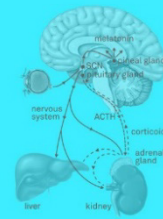
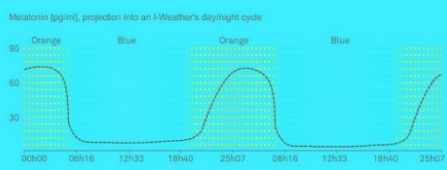
[Img. 1]



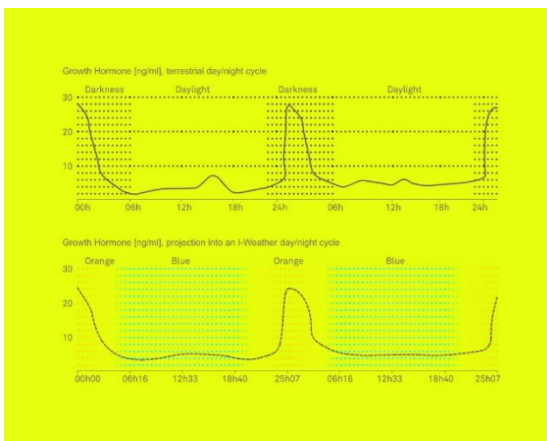
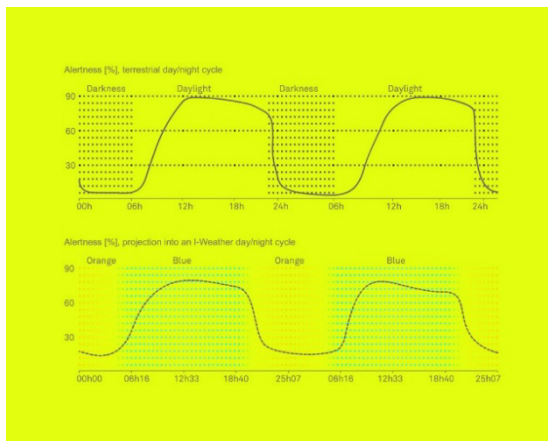
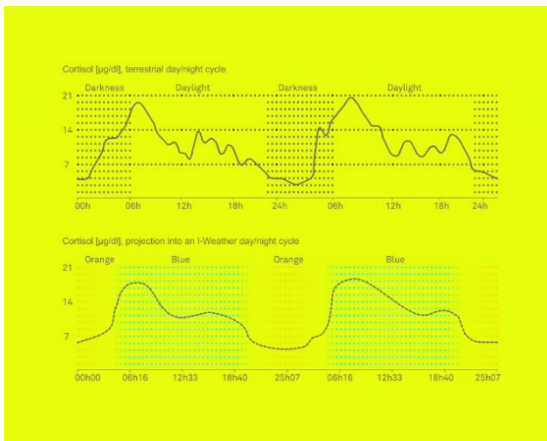
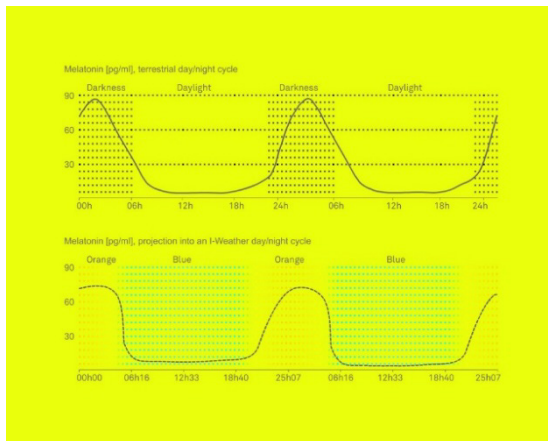
[Img. 2]



I-Weather as Deep Space Public Lighting uses as its main component I-Weather, the artificial light climate based on medical researches about the human physiology. It is also inspired by recent experimentations from the NASA about the Deep Space Internet (Disruption-Tolerant Networking protocol), a model for an interplanetary Internet and a new way to communicate with distant satellites.



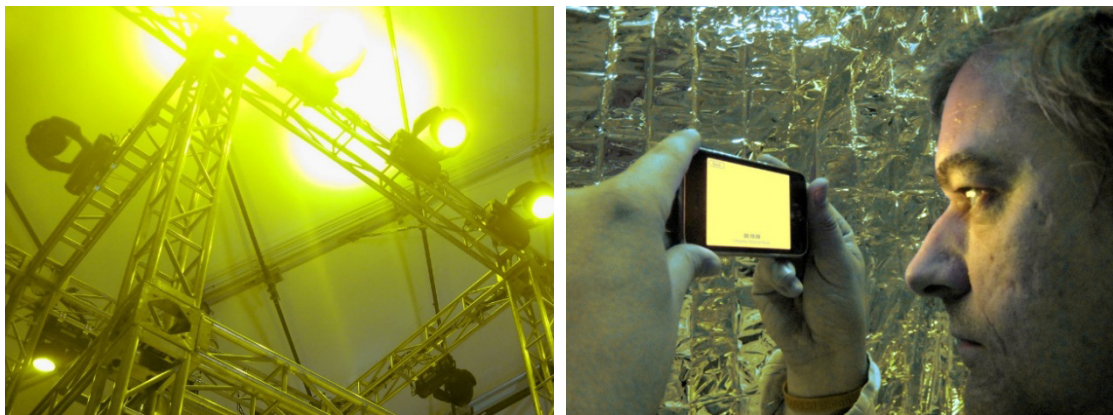
[Img. 3]



[Img. 4]



[Img. 5]

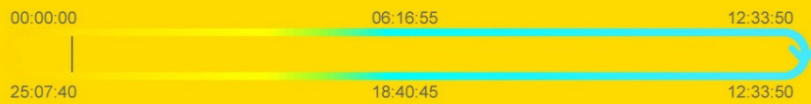


[Img. 6]



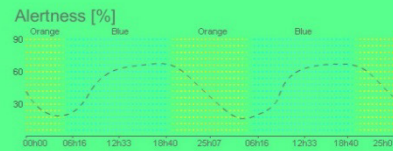
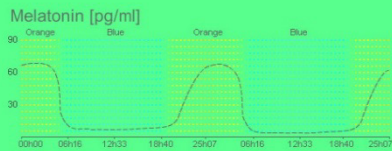
# 00 : 48 : 42

003212 days | I-Weather Time



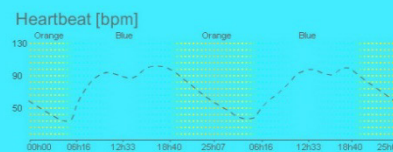
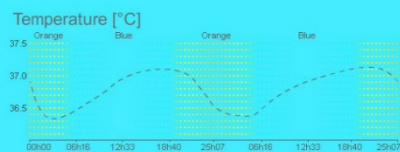
# 05 : 35 : 53

003212 days | I-Weather Time



# 11 : 48 : 43

003212 days | I-Weather Time



[Img. 7]

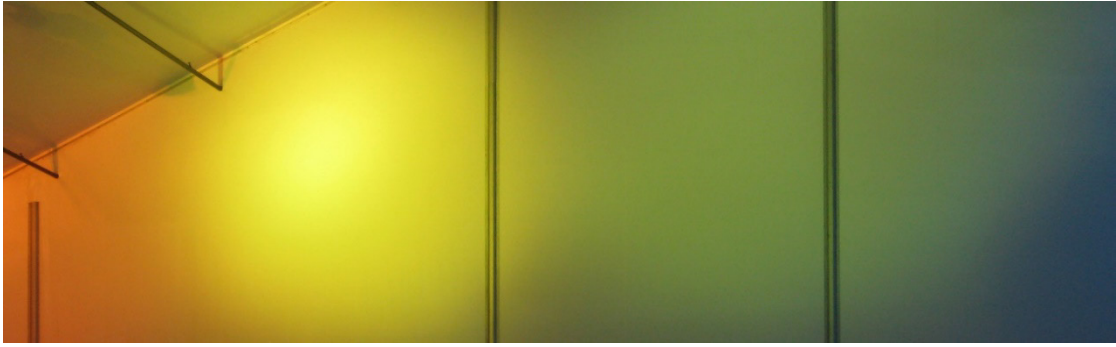


[Img. 8]

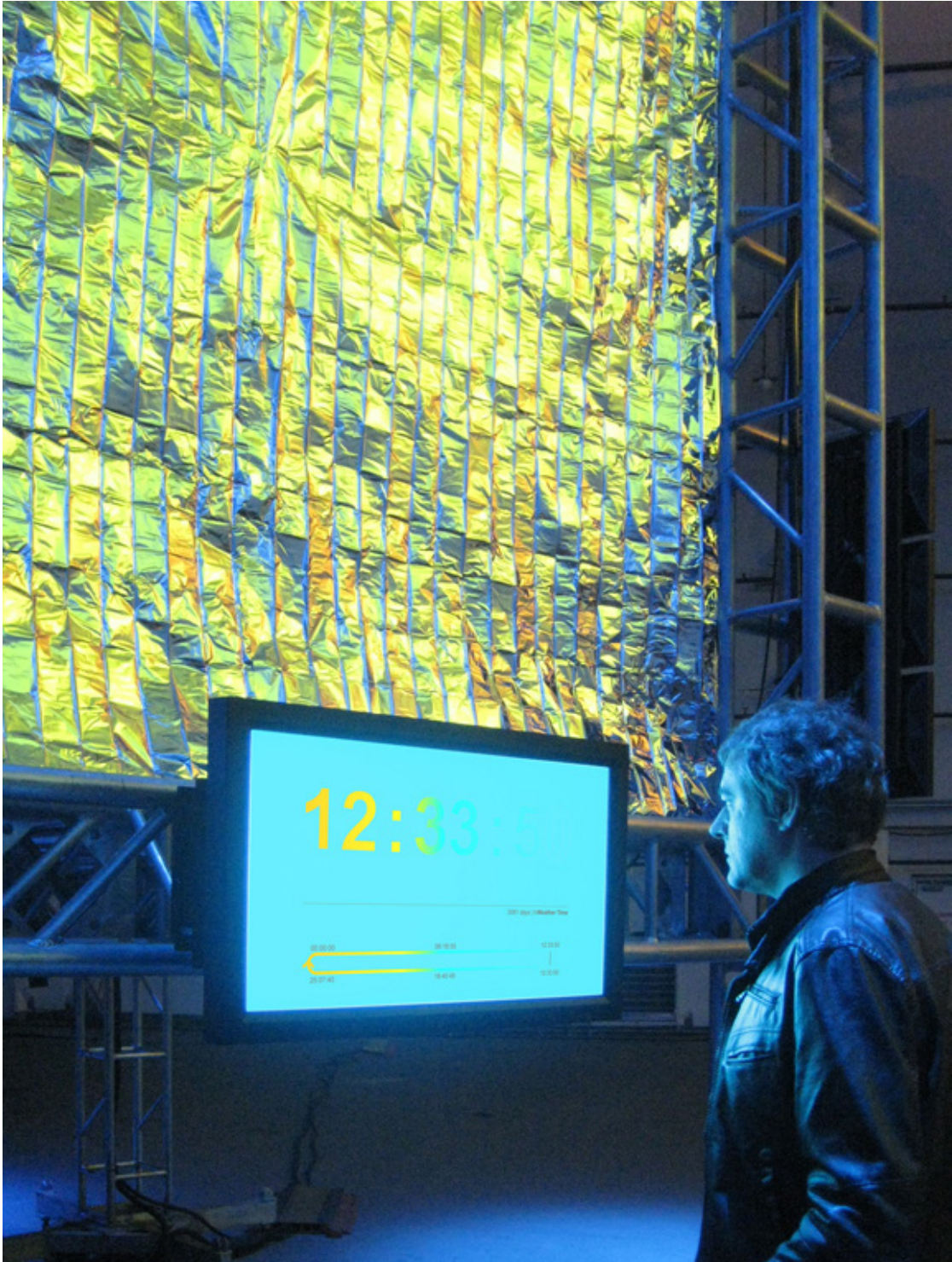


[Img. 9]





[Img. 10]

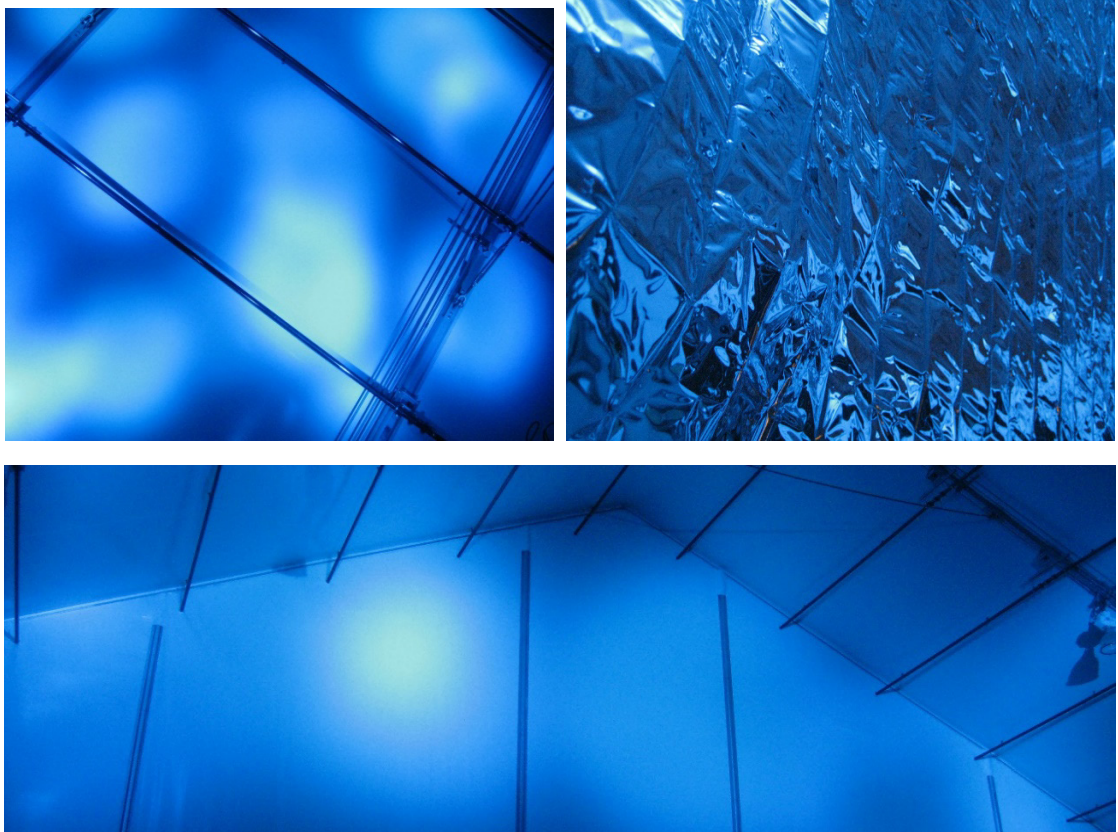


[Img. 11]





[Img. 12]



[Img. 13]





[Img. 14]

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Image captions:

- [Img. 1] I-Weather as Deep Space Public Lighting during a yellow-orange time (equivalent to nighttime). The "lander"-like installation is set up in the South Hall, in downtown San Jose (San Francisco Bay Area, CA) with several controllable lights on its top (color, intensity and orientation are digitally controllable via a custom program). The "control room" is inside the closed and infrared reflecting volume of the module. South Hall is a large and very long inflated type of multi-purpose hall, with no natural light coming in. It is quite an adequate space in which to install the I-Weather lighting module and the artificial climate.
- [Img. 2] Details on the I-Weather as a Deep Space Public Lighting module and its different outside interfaces.
- [Img. 3] Interface n°1: snapshots during a "blue time" period (equivalent to daytime). This interface explains mainly the basic objectives of the project while presenting, at the same time, the current state of I-Weather.
- [Img. 4] Interface n°2: presents different graphs describing the diverse relations between light and the inner body clock.
- [Img. 5] Interface n°3: I-Weather clock. This is the main interface on the module. It displays the I-Weather in real time (hours and days) and with color and main graphics.
- [Img. 6] Details. A scientist inside the control room synchronizes himself with yellow time.
- [Img. 7] The I-Weather Clock interface in three different states: yellow-orange, green and blue times with time cursor and different graphs (top – bottom).
- [Img. 8] At certain periods, the installation in the South Hall displays the entire I-Weather rainbow. It is like having all the time (night, day, sunset and sunrise) displayed at the same time: a sort of time and light rainbow.
- [Img. 9] Same "time rainbow," but this time from the opposite side of the 200-meter-long South Hall. In front of this picture is a fragment of the amazing Empire Drive-In, built out of wrecked cars and second-hand wooden parts (project by Tod Chandler and Jeff Stark).
- [Img. 10] Rainbow time, detail on the inflated tarpaulin.
- [Img. 11] The I-Weather Clock is displaying a daytime (blue, 12h 33min), while a rainbow reflects itself on the infrared reflective sides (made of gold Mylar) of the control room.
- [Img. 12] Blue time, view from the 2010 O1SJ Biennial exhibition's main access point.
- [Img. 13] Details on the blue light scattering in the space.
- [Img. 14] Front view of the "lander" with the I-Weather clock in the center.



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## I-Weather as Deep Space Public Lighting

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Curator Steve Dietz, describing the 2010 O1SJ Biennial:

*"Build Your Own World: The future is not just about what's next. It's also about what we can build to ensure that what's next matters. How can we, as resourceful, innovative, and knowledgeable local and global citizens build and participate in a desirable future in the face of global climate change, economic meltdown, political instability, and cultural divisiveness?"*

I-Weather as Deep Space Public Lighting:

In 2001, fabric | ch and architect Philippe Rahm jointly set up I-Weather, an open-source, artificial climate based on the human metabolism, circadian rhythms and the medical knowledge of the time about light therapy and chronotherapy. I-Weather was intended to allow the growing number of de-territorialized locations and people to synchronize their atmosphere and metabolism with this Internet-distributed climate: a parallel day of 25 hours, which diffused its colored and luminous "daylight" in any physical or digital space connected to the I-Weather's server.

In 2008, NASA announced the first successful communication with a 20-million-mile-distant spacecraft on the *Deep Space Internet* (Disruption-Tolerant Networking protocol), the model for a forthcoming interplanetary Internet.

Late in 2009, the team upgraded I-Weather to a new version, as scientific knowledge of biological rhythms had evolved, demonstrating that melatonin regulation is enhanced by using a minimum wavelength of 460nm (blue) and a maximum wavelength of 597nm (orange) rather than between 385nm (deep purple) and 509 nm (green), as was the case with the initial version of I-Weather. Blue light suppresses the diffusion of melatonin in the body, while orange light allows it to go to sleep or to perform quiet actions without altering the body clock.

In summer 2010, fabric | ch set up a project called I-Weather as Deep Space Public Lighting during the O1SJ Biennial in South Hall, downtown San Jose (San Francisco Bay Area, CA). It proposed a critical use of I-Weather as a model for a metabolic public lighting source, distributed and synchronized through an imaginary *Deep Space Internet* into the confined and conditioned environments of space exploration vehicles or into the speculative public spaces of "distant colonies."

The exhibition was therefore the occasion to question public (outer) space, public data, public technology, and artificial climates.

fabric | ch, September 2010

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fabric | ch (97-23)

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