



## Living Nature. La natura dell'abitare

*This invitation from the Salone del Mobile.Milano to venture closer to nature provides an opportunity of rare emotional and multisensory beauty, a chance to reflect on the opportunities for sustainability in contemporary living. From 17<sup>th</sup> to 25<sup>th</sup> April, in Piazza Duomo.*

The 57<sup>th</sup> edition of the **Salone del Mobile.Milano** puts the spotlight firmly on a fundamental issue facing design now and in the future, which is how to make creativity and innovation compatible with nature, energy consumption control and the use of sustainable recyclable and non-polluting materials and techniques. The Salone is bringing the **Living Nature. La natura dell'abitare** exhibition to the city from **17<sup>th</sup> to 25<sup>th</sup> April**, in **Piazza del Duomo**, in front of **Palazzo Reale**. The project was developed in partnership with the **Carlo Ratti Associati (CRA)** international design and innovation studio.

A **500 square metre area**, conceived with energy saving criteria in mind, contains **four natural, climatic microcosms** in which all four **seasons of the year** can coexist alongside each other contemporaneously. Visitors will be immersed in nature and experience its changes as they make their way through the four different areas – **Winter, Spring, Summer and Autumn**. Each season brings with it an opportunity to discover new colours and scenarios; from winter's snowy white mantle to the gentle hues of spring, from the vivid summer colours to autumnal yellow and orange. Unexpectedly perhaps, these spaces also contain **familiar timeless design objects**, embellishing them with the rarefied beauty of **domestic and design pieces**.

From a technical point of view, encapsulating the essence of the seasons within confined spaces has been no mean **technological feat**, but a fascinating one that has led to **integrated and original solutions, developed** specifically for this project. A great deal of work has been done on **energy flows** in order to recreate the extraordinary, delicate balance of the seasons. The integral **photovoltaic panels on the outside of the pavilion roof** generate **clean energy** that powers the **climate control system** of all four pavilions. The entire space functions like a **large refrigerator**; the power produced by the panels is harnessed to fuel a heat exchanger, which **transfers thermal energy** enabling the temperature in the winter area to be kept at around 0°C, preserving the natural snow inside; the heat extracted from this space by means of air treatment underfloor pipe coils and fan convector units is not wasted, but ducted to the summer area and used to recreate its typical seasonal conditions. The **position of the four seasons** and the **membrane covering the pavilion** – its **level of transparency and resistance to heat permeation** in particular – were worked out with dynamic calculation tools so as to reproduce the natural **irradiation conditions** typical of the corresponding time of year.

One of the main objectives of the project was to achieve the **greatest possible satisfaction of energy consumption using locally produced energy from renewable sources**.



Living Nature is a **small, intelligent and sustainable universe** containing **four different ecosystems**. **23 species of tall tree** enjoy **perfect lighting and temperature conditions** and an **ideal habitat**, according to season. Dotted around the **winter** area are two different types of acer, Father David's Maple and Chinese Paperbark Maple, a Himalayan Birch, a Chinese Scholartree, an Oriental Spruce and two varieties of Pine, a Scots Pine and an Austrian Pine. In the **spring** area, a Japanese Flowering Crab Apple and a Tibetan Cherry "Branklyn", both in full bloom, make for a stunning sight, along with an equally enchanting Magnolia x Loebneri. There are also a flowering Myrobalan, a Katsura tree and two varieties of Amelanchier. The **summer** area contains the welcome shade of a Common Oak, a Common Alder and a Small-Leaved Lime, along with the vivid green of the Common Hornbeam and the Soft Tree Fern. Finally, in the **autumn** section, the Crab Apple "Rudolph", the Japanese Maple and the Persian Ironwood make for a riot of warm colours.

As well as the tall trees, each season is also characterised by garden compositions featuring typical plants and flowers. Lastly, there is a huge variety of shrubs, grasses and bulbous plants for visitors to admire as they wander around the pavilion.

This is **more** to Living Nature than this however. It also tells really rather special **design stories** that are contextualised and related to nature. In a new, holistic approach, each season features iconic objects that define **four domestic spaces and four family experiences**, each entirely different. The pavilion thus becomes a narration of **interior architecture** performs its rightful function **while respecting the environment**.

Living Nature is a gift from the Salone del Mobile.Milano to "its" city of Milan: an **absolutely unique laboratory** that **combines design, engineering and botany** to test ways in which a space, be it domestic or urban, can become more **human-friendly by harnessing natural resources in a sustainable manner**. Ultimately, the project provides a new starting point and a different perspective on tackling the **issues of environmental sustainability and climate change** in a bid to improve our living conditions at home and in cities and satisfy the human tendency towards "**biophilia**" – a term coined by Harvard biologist Edward O. Wilson – according to which we are all instinctively attracted by nature and "programmed" to feel better when we are immersed in it.

## Credits

*A Carlo Ratti Associati (CRA) project for the Salone del Mobile.Milano*

Concept Design: **Carlo Ratti Associati & Studio Römer**

Design Development: **Carlo Ratti Associati**

Set Design: **Studio Römer**

Engineering Consultant: **Ai Studio**

Landscape and Botantics: **Patrick Blanc; Flavio Pollano**

Construction: **PAC Team Expo**

Graphics: **studio FM milano**



Thanks for collaboration and furnishings:

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## Living Nature. La natura dell'abitare

17<sup>th</sup> – 25<sup>th</sup> April

Piazza del Duomo

10 am – 10 pm

Free entry: 10 people every 10 minutes

## Talks

18<sup>th</sup> April

**The Green & The Grey. New nature-design connections**

Speakers: **Stefano Boeri, Carlo Ratti, Patrick Blanc, Flavio Pollano, Barbara Römer**

Moderator: **Marco Romanelli**

9.30 – 11.00 pm

Free entry

21<sup>st</sup> April

**Natural/Artificial. *New environment and design hybrids***

Speakers: **Andreas Kipar**, landscape designer, CEO, LAND, **Ferdinand Ludwig**, architect, founder, Baubotanik, Assistant Professor, Technical University of Munich (TUM), **Marco Santambrogio**, Professor, Philosophy of Mind, San Raffaele University of Milan

Moderator: **Daniele Belleri**, CRA

8.30 pm

Free entry

Milan, 17<sup>th</sup> April 2018

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Professor Carlo Ratti  
Profile

An architect and engineer by training, Professor Carlo Ratti teaches at the Massachusetts Institute of Technology (MIT), where he directs the Senseable City Lab, and is a founding partner of the international design and innovation office Carlo Ratti Associati. He graduated from the Politecnico di Torino and the École Nationale des Ponts et Chaussées in Paris, and later earned his MPhil and PhD at the University of Cambridge, UK.

A leading voice in the debate on new technologies' impact on urban life and design, Carlo has co-authored over 500 publications, including "The City of Tomorrow" (Yale University Press, June 2016, with Matthew Claudel), and holds several technical patents. His articles and interviews have appeared on international media including The New York Times, The Wall Street Journal, The Washington Post, Financial Times, Scientific American, BBC, Project Syndicate, Corriere della Sera, Il Sole 24 Ore, Domus. His work has been exhibited worldwide at venues such as the Venice Biennale, the Design Museum Barcelona, the Science Museum in London, MAXXI in Rome, and MoMA in New York City.

Carlo has been featured in Esquire Magazine's 'Best & Brightest' list and in Thames & Hudson's selection of '60 innovators' shaping our creative future. Blueprint Magazine included him as one of the '25 People Who Will Change the World of Design', Forbes listed him as one of the 'Names You Need To Know' and Fast Company named him as one of the '50 Most Influential Designers in America'. He was also featured in Wired Magazine's 'Smart List: 50 people who will change the world'. Two of his projects – the *Digital Water Pavilion* and the *Copenhagen Wheel* – have been included by TIME Magazine in the list of the 'Best Inventions of the Year'.

Carlo has been a presenter at TED (in 2011 and 2015), program director at the Strelka Institute for Media, Architecture and Design in Moscow, curator of the BMW Guggenheim Pavilion in Berlin, and was named Inaugural Innovator in Residence by the Queensland Government. He was the curator of the Future Food District pavilion for the 2015 World Expo in Milan. He is currently serving as co-chair of the World Economic Forum's Global Future Council on Cities and Urbanization, and as special adviser on Urban Innovation to the President and Commissioners of the European Commission.

For further information visit [www.carloratti.com](http://www.carloratti.com) and [senseable.mit.edu](http://senseable.mit.edu)

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**Carlo Ratti Associati** is an international design and innovation practice based in Turin, Italy, with branches in New York and London. Drawing on Carlo Ratti's research at the Massachusetts Institute of Technology (MIT), the office is currently involved in many projects across the globe, embracing every scale of intervention - from furniture to urban planning. The work of the practice merges design with cutting-edge digital technologies, so as to contribute to the creation of an architecture "that senses and responds".

Among recent projects there are the *Future Food District* thematic area at Milan World Expo 2015, the redesign of the Agnelli Foundation HQ in Turin, the master plan for *Milan's Science, Knowledge and Innovation Park*, the requalification of the Patrick Henry military village for IBA Heidelberg, the *Pankhasari retreat* in India's Darjeeling, and the concept for a human-powered Navigating Gym in Paris.

**Carlo Ratti Associati** is the only design firm whose works have been featured twice in TIME Magazine's "Best Inventions of the Year" list - respectively with the Digital Water Pavilion in 2007, and the *Copenhagen Wheel* in 2014. In the last years, the office has also been involved in the launch of start-ups, including Makr Shagr, a company producing the world's first robotic bar system, and Superpedestrian, the producer of the Copenhagen Wheel.

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