

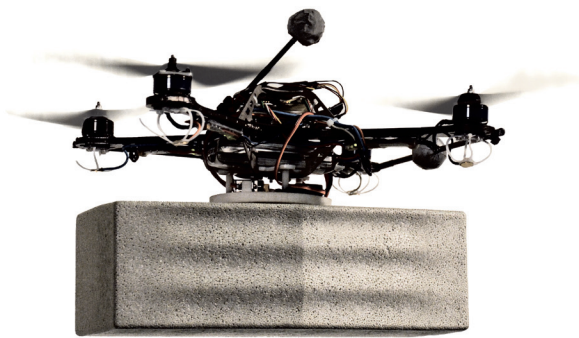


## Exhibition Gramazio & Kohler and Raffaello D'Andrea

in collaboration with ETH Zurich

### *Flight Assembled Architecture*

02.12.2011-19.02.2012



*Flight Assembled Architecture*  
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**Vernissage**  
**Thursday December 1, 2011,**  
**6 pm-9 pm**

Performance (building process of the architectural structure by the flying robots)  
Friday December 2nd: 10am-12am and 2pm-6pm.  
Saturday December 3rd and Sunday December 4th:  
3pm-6pm.

#### THE AUTHORS

In 2011, Gramazio & Kohler and Raffaello D'Andrea started to develop a pioneering approach on dynamic material formation and machine behaviour. Belonging to the generation of young architects aiming at using the full potential of digital design and fabrication, Gramazio & Kohler joined with Raffaello D'Andrea whose work addresses ground-breaking autonomous systems design and algorithms. Together, they started to explore the possibilities of a revolutionary assembly apparatus and reveal with their collaboration unseen spatial and structural articulations based on the innovation of *Flight Assembled Architecture*.

#### A UNIQUE INSTALLATION, CO-PRODUCED BY FRAC CENTRE

*Flight Assembled Architecture* is the first installation to be built by flying machines. Conceived as an architectural structure at a scale of a 600 m high "vertical village", the installation addresses radical new ways of thinking and materializing architecture as a physical process of dynamic formation. Gramazio & Kohler and Raffaello D'Andrea developed a powerful expression of cutting-edge innovation that uses a multitude of mobile agents working in parallel and acting together as scalable production means. Those are programmed to interact, lift, transport and assemble small modules in order to erect a building structure that synthesizes a rigorous architectural approach by Gramazio & Kohler and a visionary autonomous system design by Raffaello D'Andrea.

The FRAC Centre chose to associate with their approach. The aim was to initiate a unique installation and be able to include the result in its collection of experimental architecture. Moreover, this is the first collaborative project by Gramazio & Kohler and Raffaello D'Andrea and will be exclusively exhibited at the FRAC Centre, Orléans.

#### THE EXHIBITION

Following an initial phase lasting several days and dedicated to the assembly by flying machines of a model standing 6m high and 3,5m in diameter-made up of 1500 prefabricated polystyrene foam modules-, the exhibition will feature a "megastructure" in its completed form, along with a film documenting the airborne assembly and all aspects of the exhibition.

#### LECTURE

Additional lecture by Gramazio & Kohler on their architectural works, organized by the Centre culturel suisse in collaboration with the Centre Pompidou in Paris.

› Centre Pompidou, December 2, 2011, 7pm.

**PUBLICATION**

An exhibition catalogue (English/French bilingual), *Flight Assembled Architecture* by Gramazio & Kohler and Raffaello D'Andrea, FRAC Centre coll., will be published by HXX, Orléans in February 2012.

**BIOGRAPHIES****Gramazio & Kohler**

Fabio Gramazio and Matthias Kohler are architects with multi-disciplinary interests ranging from computational design and robotic fabrication to material innovation. In 2000, they founded the architecture practice Gramazio & Kohler where numerous award-winning designs have been realized, integrating novel architectural designs into a contemporary building culture. Their work includes such notable pieces as the Gantenbein vineyard façade, the Christmas lights for the Bahnhofstrasse in Zurich, the sWISH\* Pavilion at the Swiss National Exposition Expo.02 and the Private House in Riedikon. Founding also the world's first architectural robotic laboratory at the Swiss Federal Institute of Technology in Zurich, their pioneering research concentrates on a multi-disciplinary practice between computational design, robotic fabrication and material innovation. This ranges from 1:1 prototypical installations to the design of robotically fabricated high-rise buildings. Their work has been published in a large number of academic journals, further contributing to numerous exhibitions around the world such as the 2008 Architectural Biennial in Venice or the Storefront Gallery for Art and Architecture in New York 2009.

**Raffaello D'Andrea**

Raffaello D'Andrea is professor of Dynamic Systems and Control at the Swiss Federal Institute of Technology in Zurich. He also is technical co-founder and chief technology advisor for Kiva Systems, a Boston area high-tech company that has developed a revolutionary material handling system utilizing hundreds of fully autonomous mobile robots. He was the faculty advisor and system architect of the Cornell Robot Soccer Team, four-time world champions at the international RoboCup competition in Sweden, Australia, Italy, and Japan. In addition, he has exhibited his work at various international venues, including the Venice Biennale, Ars Electronica, the Smithsonian, and the Spoleto Festival; two of his collaborative projects—*The Robotic Chair* and *The Table*—are in the permanent collection of the National Gallery of Canada. D'Andrea is a recipient of the Invention and Entrepreneurship in Robotics and Automation Award, the United States Presidential Early Career Award for Science and Engineering, the National Science Foundation Career Award, and best paper awards from the American Automatic Control Council, the Institute of Electrical and Electronics Engineers, and the International Federation of Automatic Control.

<http://www.gramaziokohler.com>

<http://www.raffaello.name>

<http://www.dfab.arch.ethz.ch>

<http://www.idsc.ethz.ch>

**PRACTICAL DETAILS**

**Free shuttle from Paris on the opening day/  
vernissage; reservations at:**  
T-02 38 62 52 00  
[contact@frac-centre.fr](mailto:contact@frac-centre.fr)

**FRAC Centre**  
**12 rue de la Tour Neuve**  
**45 000 Orléans**  
**[www.frac-centre.fr](http://www.frac-centre.fr)**

**Free admission.**  
Mon–Fri 10am–12am and 2pm–6pm.  
Week-ends and holidays, 2pm–6pm.  
Guided tours on Saturdays and Sundays at 4pm.  
Closed on Christmas Day 2011  
and New Year's Day 2012.

**Press contact**  
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High-res images upon request

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