Opening
**THE TURBULENCES FRAC CENTRE**
14/09/2013

9th
**ARCHILAB**
**Naturalizing Architecture**
14/09/2013
02/02/2014
The Regional funds for contemporary art (Frac), which today number 23 in all, were created in 1982 by the Ministry of Culture with the support of the Regions, and represent one of the egregious successes of the decentralization policy. Through them, contemporary works of international quality find their way into the French heritage, and can be enjoyed by all manner of public.

Since the 1990s, the Frac Centre has specialized in new trends in contemporary architecture using the very latest digital technologies. The influential but often little-known architects and architectural movements of the postwar period have thus bolstered the specific identity of this new collection. Through the large number of exhibitions held in the Centre region, elsewhere in France, and abroad, this collection nowadays enjoys worldwide recognition, for, within just a decade, it has managed to encompass all the alternatives which have often otherwise remained at the level of concepts and projects. It has brought to the forefront Yona Friedman’s radical architecture movement, as well as the theses on alternative modernity put forward by Paul Virilio and Claude Parent.

It was time for this outstanding collection to have a building worthy of its image, bringing together, as it does, more than 600 works, 800 maquettes and models, and 15,000 drawings, plans and various architects’ documents, regularly complemented by contemporary works relating to architecture, and whole collections from architecture studios. This is the successful wager made by the French and New Zealand architects, Jakob + MacFarlane.

The construction of this new building is part and parcel of the movement ushered in the early 2000s, underwritten by local authorities, and underpinned by the State, consisting in equipping the Frac with effective tools specially designed for their various briefs. Seven new Frac projects will see the light of day between 2012 and 2015: Aquitaine, Basse-Normandie, Bretagne, Centre, Franche-Comté, Nord-Pas-de-Calais, and Provence-Alpes-Côte d’Azur.

The Frac Centre’s new building is distinctive insomuch as it is part of a rehabilitated edifice, the former Military Supply Depot. Its three large “turbulences”, growths thrusting skywards from the ground, are a signal that invites the public to come and discover this extremely rich collection. The 9th ArchiLab exhibition—the “laboratoire international de l’architecture prospective”— dedicated this year to the new relations between nature and architecture, will be held from September 2013 to February 2014.

Aurélie Filippetti
Minister of Culture and Communication
For many years now, the Centre Region has been involved in a comprehensive programme encouraging cultural development, an essential vehicle of social bonding and personal growth, and a source of influence for our region. In this context, for the past thirty years, the creation of the FRACs [Fonds Régional d’Art Contemporain—Regional Funds for Contemporary Art] has permitted a novel presence for art in France’s regions in an age of decentralization. Today, a new generation of these facilities is bolstering public programmes.

At a national level, our FRAC Centre has a unique place in relation to interactions between visual and architectural creation. This position is being frequently confirmed in a context where innovative creative methods are closely linked, in particular, to digital developments. The major importance of its collections, their international sphere of influence, and all the activities involving exhibitions, information, lectures and publications lend it a pivotal role within regional cultural policies.

Its installation in September 2013 at the Site des Subsistances, associated with an architectural project symbolic of the more topical relation between art and architecture, will give it a new dimension on a par with its brief involving the dissemination of knowledge and the comparison of ideas lying at the heart of the challenges of contemporary creative work. The Centre Region’s determined commitment alongside the State has made it possible to complete the very handsome new FRAC project, enabling the desired development of its programmes and its openness to all kinds of public.

With this outstanding tool, we will have a cultural reference for our region in an essential area of creative activity, within a network of extremely significant partners. Our region’s inhabitants together with our visitors will find optimum conditions for accommodating the public and holding exhibitions, offering documentation facilities and user-friendliness encouraging a fruitful encounter with the works on view and their ability to open our eyes.

François Bonneau
President of the Centre Region
President of the FRAC Centre
# TABLE OF CONTENTS

6. Press Release
9. The Policy of the Ministry of Culture and Communication for the Frac
10. The Frac Centre
    **An Art & Architecture Frac**
    **A New Facility**
    • The so-called "new generation" Fracs
    • A new project for the Frac Centre
    • The site of the new Frac Centre
12. • The architectural project: Jakob + MacFarlane's "The Turbulences"
13. • The artistic contribution of Electronic Shadow, "Resonance"
    • The garden of the ruedurepos agency
14. • The functional features of the new building
15. **Artistic and cultural project**
    • A place for creation and research
    • The public at the heart of the project
16. • Cultural programme
17. • Regional, national and international influence
18. **Opening programme**
    **The permanent gallery**
19. **The circuit of works through the building**
20. **The 9th ArchiLab Event**
    • Presentation of the ArchiLab event
    • The 9th ArchiLab, Naturalizing Architecture
26. **Programme of events**
    • The 30 years of the Fracs
    • Intramuros
27. • Archipel
28. **Publications and film**
30. **Visiting the Frac Centre**
    **The Turbulences: a place welcoming the public**
    **Guided tours**
    **Interactive tools for visits**
    **Services**
31. **Financing**
32. **Appendices**
    **Biographies**
    • Portrait of Jakob + MacFarlane
    • Portrait of Electronic Shadow
33. • Agence ruedurepos (Christophe Ponceau et Mélanie Drevet)
34. • The ArchiLab curators
35. • Biographies of participants in the ArchiLab exhibition
44. **To go further**
45. **Archipel partners**
46. **Selection of visuals for the press**
48. **Practical information**
49. **Partners**
In this context, FRAC Centre is located at the former Subsistances militaires site in Orléans. This architectural renovation was undertaken by the Centre region, the contracting authority, in cooperation with the state - Ministry of Culture and Communication - regional office of cultural affairs (DRAC), Europe (under FEDER) and the City of Orléans.

Innovative and daring architecture
Architects Jakob + MacFarlane, managing the project, have opted for a strong physical presence. The extension, christened ‘The Turbulences,’ because of its prefabricated tubular structure covered by an anodised aluminium casing, conceptualizes dynamic architecture. Partly covered by an interactive ‘veil of light,’ produced by the associate artists Electronic Shadow, the Turbulences will be programmed in real time.

New Features
The FRAC Centre will have new features within its 3,000 m²: a permanent gallery (370 m²) displaying the collection’s flagship works; temporary exhibition rooms approximately 1000 m²; a pedagogical workshop (180 m²); a documentation centre; a garden designed by ruedurepos (400 m²).

The Turbulences (500 m²), a public reception area, comprises a cafeteria, a bookshop and an auditorium. Furthermore the FRAC Centre benefits from outsourced art work reserves (1,500 m²).

The FRAC Centre, a research laboratory for architecture, will provide a valuable tool for developing a transdisciplinary cultural programme centred on relationships between art, architecture and design.
Inaugural Event
9th ArchiLab
14th September 2013 - 2nd February 2014

Created in 1999, the prerogative of this internationally renowned event is to be a true laboratory for architecture, presenting the most advanced research in terms of architectural creation on each occasion.

Curated by its founders, Marie-Ange Brayer, Director of FRAC Centre and Frédéric Migayrou, Deputy Director of the Centre Pompidou, MNAM-CCI, this new event ‘Naturaliser l’architecture’ (Naturalizing Architecture) is devoted to the interaction between digital architecture and the sciences, exploring the challenges faced in simulating the living world.

Today, through recourse to the most advanced digital tools, architects envisage projects which evolve according to principles similar to those found in nature. In close proximity to science, they develop a high level of proficiency in mathematics, which enables them to artificially simulate formation and growth processes unique to the kingdom of life.

The architecture is therefore designed like an organism in constant adaptation, with the ability to evolve in close interaction with the material conditions of its environment.

Broadly exceeding the boundaries of their practice, architects now develop a practice at the crossroads of design, computer science, engineering and biology. Conditions for production in the domain of architecture are radically redefined by this convergence, as well as by the constant evolution of the processes and tools for digital manufacturing.

For the first time, these new design processes which integrate the fields of robotics, nanotechnology, genetics and biotechnology are presented through research of a new generation.

The 9th ArchiLab is an opportunity to discover projects by 40 architects, designers and artists through interactive environments, installations and pavilions, designed specifically for the exhibition.

Architects
- [Ay]A Studio (Jorge Ayala)
- B+U
- Biothing (Alisa Andrasek)
- ecoLogicStudio
- Eragatory (Isaie Bloch)
- EZCT Architecture & Design Research
- Faulders Studio (Thom Faulders)
- Gage/Clemenceau Architects
- Gramazio & Kohler / Raffaello d’Andrea
- Michael Hansmeyer (avec Benjamin Dillenburger)
- Akihisa Hirata architecture office
- junya.ishigami+associates
- Kokkugia
- MAD Architects
- MarcosandMarjan
- MaterialEcology (Neri Oxman)
- Matsys (Andrew Kudless)
- Achim Menges
- Minimaforms
- Plasma Studio
- Ruy Klein
- Jenny Sabin
- servo
- soma
- S.JET (Skylar Tibbits)
- SPAN
- Supermansoeuvre
- Wendy Teo
- MARC FORNES & THEVERYMANY™
- Daniel Widrig
- X_TU Architects
- Xuberance (Steven Ma).

Designers and fashion designer
- Cmmnwith
- Iris van Herpen
- Joris Laarman Lab

Artists
- Federico Diaz
- Perry Hall
- Casey Reas
- Marius Watz

Symposiums
The challenges of this exhibition will be covered in two symposiums:

Architectures and Sciences: a new naturalness, international symposium, Scène Nationale d’Orléans, Thursday 24th October 2013, 9:30am-6pm
In partnership with the Maison de l’architecture du Centre and the Réseau des maisons de l’architecture (Maison de l’architecture network), the international symposium will bring together architects displayed as part of ArchiLab.

The Nature of the Artefact, Domaine National de Chambord, Friday 25th October 2013, 10am-6pm
An interdisciplinary symposium combining history of art, architecture and epistemology in the sciences from the Renaissance to digital tools.

Free entry, by reservation only.
Open Doors/ European Heritage Days
Saturday 14th and Sunday 15th September 2013

To celebrate its opening, the Turbulences - FRAC Centre invites the public to participate in the open doors during the week-end of the 14th and 15th September. Spanning these two days, visitors will have free access to the building’s architecture as well as the permanent gallery and the 9th ArchiLab. Guided tours will take place every hour. Musical and festive events, special meetings with the associate architects and artists will also take place over these two days.

Catalogues

Publication May 2013.

Catalogues of the FRAC Centre collection:
- Architectures expérimentales 1950-2012 (2003 edition updated and increased), 640 pages, éditions HYX.
- Art & Architecture, FRAC Centre collection (new), 304 pages, éditions HYX.

Publication September 2013.
- The Turbulences - FRAC Centre, Jakob + MacFarlane architects
  Monograph, 120 pages, bilingual, éditions HYX.
- ArchiLab 2013 Catalogue, Naturalizing Architecture
  under the direction of Marie-Ange Brayer and Frédéric Migayrou,
  260 pages, bilingual, éditions HYX.
- Bernard Tschumi, Chronomaniﬁests 1950-2010
  FRAC Centre collection, 128 pages, bilingual, éditions HYX

Practical Informations

Opening Hours (from 14th September 2013)
Wednesday - Sunday: 12pm-7pm.
Late opening until 8pm on the 1st Thursday of the month

Entry to permanent gallery & exhibitions
- Full price: €4
- Concessions: €2
- Annual pass: €10
Free entry 1st Sunday of the month.
Guided visit payable on reservation.
Bilingual French-English visioguides..

Opening programme available from June 2013

Archipel
30 related events

From March 2013 to January 2014, the FRAC Centre is collaborating with its partners in the Centre region and in France to offer an outstanding programme of 30 preparatory and opening events: exhibitions; meetings; conferences etc.

Orléans • Amis des Musées d’Orléans; Agence d’Urbanisme de l’Agglomération orléanaise; Astrolabe; Carmes Village; Centre chorégraphique national d’Orléans; Centre culturel de l’Université d’Orléans; Centre Dramatique National d’Orléans / Loiret / Centre; Centresciences; CHD Fleury-Les-Aubrais; Cinéma Les Carmes; Conseil Régional Ordre des Architectes du Centre, Orléans; ESAD Orléans; Gare d’Orléans; Les éditions Hyx; Labomedia; Librairie Chapitre; Librairie des Temps Modernes; Maison de l’architecture du Centre; Médiathèque; Musée des Beaux-arts; Muséum d’Orléans; Polytexh; Scène Nationale.
Centre region • Les Amis du FRAC Centre; Association des personnels scientifiques des musées de la région Centre; Atelier Calder, Saché; bip TV, CAUE d’Eure-et-Loir, Chartres; Centre d’Arts et de Nature - Domaine de Chaumont-sur-Loire; Clicic, Château-Renault; École municipale des beaux-arts, Galerie collège Marcel Duchamp, Châteauroux; Domaine National de Chambord; ENSA Bourges; ESBA Tours; Musée de l’Hospice-Saint-Roch, Issoudun; Pôle des arts urbains, Tours; Transpalette, Bourges; Ville d’Amilly; Université François Rabelais, Tours.
France • Centre Pompidou, MNAM-CCI, Paris; Cité de l’architecture & du patrimoine, Paris; Les Abattoirs, Musée d’art moderne et contemporain, Toulouse; Apollonia, échanges artistiques européens, Strasbourg; Réseau des maisons de l’architecture, Paris; Pavillon de l’Arsenal, Paris; École d’architecture Paris-Malaquais; La Panacée, Centre d’art contemporain, Montpellier; Centre International d’Art & du Paysage, île de Vassivière; Centre National des Arts Plastiques.
International • University College of London, Bartlett School; IAAC-Institute for Advanced Architecture of Catalonia, Barcelona.

Contacts

The Turbulences - FRAC Centre
From 14th September:
88 rue du Colombier – 45000 Orléans
Entrance boulevard Rocheplatte
Tel.: +33 (0)2 38 62 52 00
contact@frac-centre.fr (information, reservations, etc.)
www.frac-centre.fr

Communication
Amélie Evrard
Tel.: 02 38 21 79 53 | amelie.evrard@frac-centre.fr

National and International Press
Heymann, Renoultv Associées
Tel.: 01 44 61 76 76
Sarah Heymann, Raphaële Gruet, Eleonora Alzetta
r.gruet@heymann-renoul.com | e.alzetta@heymann-renoul.com

Regional Press
Kim Hamisultane
Tel.: 02 38 70 31 40 | Kim.hamisultane@regioncentre.fr
The 23 Regional funds for contemporary art [Fracs] were created in 1982 as part of the decentralization policy introduced by the State with the Regional Councils. They represent an exemplary support tool for creative activity, regional and local cultural development, and raising public awareness about art, combined with the principle of collection mobility which hallmarks all the Fracs. The dissemination and distribution of works, their circulation by way of the very numerous exhibitions and shows which they hold in their premises and mainly in venues not earmarked for culture, and their publishing activities all help to make contemporary art accessible to the largest possible audience.

Their principal brief consists in:

- The creation of contemporary art collections in the regions and support for living art through a combined programme of acquisitions and art work commissions.

- The dissemination of these collections through a policy of exhibitions and loans, and through raising public awareness about contemporary forms of visual art through the widest possible dissemination of acquired works, at the regional, national and international level.

The works of the Fracs represent a significant share of the most recent artistic heritage brought together under the aegis of the public powers-that-be. So since 1982 more than 26,000 works have found their way into Frac collections, representing 4,200 artists. They thus form the third largest public collection of contemporary art, after that of the National Centre for Visual Arts [CNAP] (47,700 works since 1960, representing 8,500 artists) and that of the National Museum of Modern Art [MNAM] (29,300 works since 1960, representing 3,700 artists). Today, each Frac has between 200 and 3,000 pieces. The works are essentially post-1960, and produced by artists who are representative of French and international art production. The acquisition of existing works from artists and galleries is still the main method for enriching collections, but the Fracs also acquire works which they produce themselves, in particular for specific exhibitions.

Every year the Fracs play host to more than one million visitors through their different programmes of dissemination and mediation.

The Ministry of Culture and Communication offers significant support to the 23 Fracs:

Working with this network is a major challenge for the State’s cultural policy, in partnership with regional authorities, at a time when the Fracs are engaged in a new development phase involving more effective facilities enabling them to bolster their regional programmes and win an even larger audience. The budget earmarked in 2012 by the Ministry of Culture and Communication (acquisitions and operation) for the 22 Fracs (all of them except Corsica) totaled €9.09 million, for all the budgetary programmes. It increased by more than €500,000 as compared with 2011, and will enjoy a similar increase (+ €562,000) in 2013, by way of redeployments, to consolidate this network, and in particular to cooperate in the installation of seven Fracs in new premises.

The consolidation of a network: the new generation Fracs

The Fracs were initially devised to be collections without their own exhibition venue, but for the past ten years they have been in a new development phase corresponding to the shared desire of local public authorities to establish these collections in facilities appropriate for the varied range of their activities.

These new facilities which will be opened turn by turn until 2015 have been designed by internationally renowned architects: BigBjarkeIngels Group in Aquitaine, Odile Decq in Bretagne, Jakob + Macfarlane in the Centre Region, Kengo Kuma in Franche-Comté and in Provence-Alpes-Côte-d’Azur, Lacaton & Vassal in Nord-Pas-de-Calais and Rudy Ricciotti in Basse-Normandie. These emblematic projects, combining innovation, performance and architectural quality, will help to assert the identity of the Fracs, heighten their renown and the pull of the different regions, and underpin their international recognition.

The participation of the Ministry of Culture and Communication in the construction of these seven new facilities amounts to €29.36.
In 2013, Regional funds for Contemporary Art (Fracs) are celebrating their “30 years”. As the outcome of cultural decentralization, and a unique agreement between the State and the Regions, the Fracs have become a quintessential tool for regional cultural development. These regional organizations raise awareness about contemporary art through their collections, and develop programmes on every territorial scale.

In 1991, the Frac Centre opted for an atypical collection which decided to bring contemporary art together with experimental architecture, from the 1950s to the present day. With its international dimension, its collection includes seminal projects of the architectural avant-gardes of the 1960s and 1970s, known by the umbrella term “radical architecture”.

The Frac Centre collection is a transversal questioning of art and architecture, sharing a common aesthetic sphere. Through its forward-looking dimension, this collection is presented as a field of open reflection and a store of ideas about tomorrow’s architecture.

Today, the Frac Centre collection includes some 600 works, 800 architectural models and maquettes, and more than 15,000 drawings, as well as many architects’ collections. It is represented through 150 architects and 170 artists. This collection forms a unique heritage of experimental architecture of the last fifty years linked with artistic creation, rivalling the world’s greatest architectural collections (Centre Pompidou-MNAM in Paris; MoMA in New York; CCA in Montreal; DAM, Architectural Museum, in Frankfurt).

The major themes of the collection are radical architecture, the “deconstruction” of the 1980s, and the most innovative research in terms of digital technologies. The Frac Centre is the only collection to bring together so many projects produced by young, forward-looking architects, drawing up an international map of research laboratories.

Today, many artists are producing works linked with architecture. Photographs, films, drawings and installations all appropriate architecture as an archetype, iconic underlay, and historic referent. From models to architectural installations on a 1:1 scale, artists are using architecture in its utopian dimension, and crossing paths with the Frac Centre’s architectural collection.

The Frac Centre collection has also grown as a result of numerous donations of outstanding collections, including those of Claude Parent, Chanéac, Pascal Häusermann, Gunther Günshel, Ricardo Porro and Renaud de la Noue, Renée Gailhoustet, J.-F. Zevaco, Guy Rottier, Georges and Jacqueline Adillon, etc.

The Frac Centre collection thus comes across like a one-off journey through the architectural and urban experiments undertaken between the 1950s and today.

Marie-Ange Brayer
Director of the Frac Centre
A New Facility

The so-called “new generation” Fracs

The creation of the Regional fund for Contemporary Art in 1982, as part of the decentralization policy introduced by the State and the Regional Councils, attested to the desire to render contemporary art democratic and make it accessible in every region.

From their creation, the Fracs have been involved in three complementary missions: collecting contemporary art, putting it on view by taking it to the public, and educating people about it. Nowadays, they are defined by many different programmes supporting creative activity, distribution, and information and awareness among every kind of public, both within the regional territory and beyond.

Based on a set of identical briefs, each Frac has developed a collection and a programme of specific activities, related to its territory, the people involved and its history.

After 30 years of collecting, the so-called “new generation” Fracs are setting up shop in new facilities better adapted to their tasks of conservation, distribution, and information and awareness about contemporary art. These transfer operations are being underpinned by the Regions in close collaboration with the State.

The Pays-de-la-Loire Frac took due note of this development in 2000. With the help of the Ministry of Culture and Communication and Local Authorities, six regions have embarked on a new adventure, by choosing to build a facility designed for their programme: in Brittany (already opened), in Provence-Alpes-Côte d’Azur (opened in March 2013), in Franche-Comté (opening in April), in the Centre Region (opening in September), in Nord-Pas de Calais (opening in September) in Aquitaine and in Basse-Normandie (completions in 2015).

The site of the new Frac Centre

Designed in the 18th century as a detention centre, the original building was converted back into a hospice before undergoing important developments with a view to establishing a military supply depot in 1837. Disused in the 1980s, between 1999 and 2006 the venue hosted the international Archilab event, devoted to research architecture. It was then chosen, in the 2006 competition, to house the new Frac Centre, to provide the best possible response to the tasks and vocation of a Regional fund for Contemporary Art.

The challenge of the competition was the museographical renovation and refurbishment of that old army depot, with its overall area of 3300 sq. m., (35,000 sq.ft.), with the introduction of an “urban signal”.

The presence of the Electronic Shadow artists within the design team, as requested by the contracting authority, the Centre Region, lent that competition a novel dimension, making it possible to associate artists with the design phases of the architectural project.

A new project for the Frac Centre

Underwritten by the contracting authority, the Centre Region, with the assistance of the State, Europe (by dint of the FEDER) and the City of Orleans, this new building will enable the Frac Centre to assert itself as a laboratory unique in the world, focusing on architecture in its most innovative dimension.

In this context, bolstered by a collection internationally recognized for its specific focus on the relation between art and architecture, the Frac Centre will open its doors in September 2013 in a new facility renovated by the architects Jakob + MacFarlane.

The goal was to develop new functional amenities which the Frac Centre’s old premises did not permit. The new facility will be capable of meeting the public’s expectations (permanent collection, temporary exhibitions, public reception area, documentation centre, educational workshop, etc.). The Frac Centre will thus be able to improve its visibility and readability on a regional, national, and international scale.
The architectural project: Jakob + MacFarlane’s “Turbulences”

Jakob + MacFarlane have brought to the fore an emerging dynamic form based on the parametric deformation and the extrusion of the grids of the existing buildings. As a strong architectural signal interacting with its context, this fluid, hybrid structure develops like three glass and metal excrescences in the inner courtyard, in the very heart of the Subsistances. The principle of emergence is extended to the immediate surroundings: the courtyard is treated like a public place, a topographical surface which forms the link between all the buildings, and accommodates the Frac Centre programme. This surface goes hand in hand with the natural differences in level of the site towards the building’s entrance, reinforces the visual dynamics of the Turbulences, and stretches away towards the city in a movement of organic expansion.

The destruction of a main building and the surrounding wall on Boulevard Rocheplatte has made it possible to greatly open up the new architectural complex to the city. Thanks to its new urban façade, the Frac Centre is connected to the cultural urban network of Orléans, and the inner courtyard has been turned into nothing less than a square. The new architectural presence has become the point of gravity of the Subsistances site, a new structure, and a new geometry. The architectural extension comes powerfully across through its prototypical dimension, which echoes the identity of the Frac Centre and its collection.

The glass and steel excrescences of the Turbulences house a public reception area and organize the flow of visitors towards the exhibition areas, situated in the existing main buildings.

The critical dimension of the work, conveyed by its structural complexity, is transcribed on all the project’s scales. The tubular metal structure, reinforced by a secondary structure supporting the exterior covering panels (aluminium panels, either solid or perforated) and the interior panels (made of wood), is formed by unusual and unique elements. The lower parts of the Turbulences are clad with prefabricated concrete panels, which provide the continuity of the building with the courtyard. The apparent disjunction between the two architectural orders is offset by the impression of emergence given by the Turbulences.

The light, prefabricated structure of the Turbulences has been entirely designed using digital tools. All the building trades involved worked on the basis of one and the same modelling file. The structures were subject to a trial assembly in the factory where the tubes were welded, before the permanent on-site assembly.

In this project, the at once conceptual and surgical approach to the urban fabric developed by Jakob + MacFarlane redefines the site in order to incorporate in it new points of equilibrium, “shifting” the architecture and offering contemporary art a dynamic and evolving image.

The architectural intervention, with its complex, faceted geometry, stands out against the symmetry and sobriety of the Subsistances site whose period structures and materials are left visible.

As “living” architecture permeable to urban ebbs and flows, the Turbulences - Frac Centre thus becomes the emblem of a place devoted to experimentation in all its forms, to the hybridization of disciplines, and to architectural changes occurring in the digital age.
The artistic contribution of Electronic Shadow, Resonance

The Jakob + MacFarlane extension, conceived like a graft on the existing buildings, introduces a principle of interaction with the urban environment activated by a "skin of light" on the Turbulences, designed by the artists’ duo Electronic Shadow (Nizha Mestaoui and Yacine Aït Kaci), the associate artist and joint winner of the competition.

Their proposal consists in covering a part of the Turbulences, giving onto the boulevard, with several hundred diodes, thus introducing a "media façade", a dynamic interface between the building and the urban space. Using the construction lines of the Turbulences, the points of light become denser, passing from point to line, line to surface, surface to volume, and volume to image. This interactive skin of light, integrated in the building like a lattice-work moucharaby, will function in real time and develop a state of “resonance” with its environment, based on information coming, for example, from climatic data (daylight, wind, etc.) as well as animated image scenarios devised by the artists.

The building’s surface will thus be informed by flows of information, transcribing them as light-images.

These luminous signs, the result of a computer programme, implement the merger of image and matter, turning The Turbulences into “immaterial architecture”.

The garden of the ruedurepos agency

The garden (400 sq. m./4500 sq. ft.) of the ruedurepos agency (Christophe Ponceau and Mélanie Drevet) comes across like a mineral setting with plants, situated behind the central building and visible from the courtyard. Called “La faille/The Fault”, it proposes, at some remove, a dialogue between construction and greenery. Several levels will be engaged in this dialogue: pozzuolana bed, Corten steel furniture this side of the ground level, and vegetation formed, among other things, by a grassy area of ophiopogons punctuated by pink lilies and sumacs.
The functional features of the new building

The Frac Centre will have at its disposal a facility perfectly adapted to its tasks of dissemination and public reception, with an overall surface area of about 3000 sq. m./32,000 sq. ft.. The Frac Centre collection devoted to art and experimental architecture will be permanently accessible in a gallery (375 sq. m./4,000 sq. ft.) which, when it opens, will display the emblematic works of the collection; it will subsequently put on repeated shows.

Visitors will follow a temporary exhibition circuit (1100 sq. m./12,000 sq. ft.) throughout the U-shaped building. Five exhibition rooms in all will house monographic and thematic shows.

School children will henceforward have access to an educational workshop (MicroLab) (180 sq. m./2000 sq. ft.), while researchers and students will be able to come by appointment to consult publications in the documentation centre.

The Frac Centre also has outside reserves holding works on the outskirts of Orléans with an overall surface of 1500 sq. m./16,000 sq. ft., in compliance with conservation standards.

The Turbulences is a place where the public is welcomed and visitors find guidance. This multipurpose space is also a convivial place with an area for light refreshments, a screening room, a bookshop, presentation of works, etc.

Visitors will also have access to the garden (400 sq. m./4300 sq. ft.), a setting filled with plants situated behind the building, designed as a place of relaxation. The garden will have its own specific programming: presentation of works, open air cinema, etc.

In the renovated buildings:
• Permanent gallery for the collection (375 sq. m./4000 sq. ft.)
• Temporary exhibition rooms (1100 sq. m./12,000 sq. ft.)
• Educational workshop MicroLab (180 sq. m./2000 sq. ft.)
• Documentation Centre (125 sq. m./1350 sq. ft.)
• Offices (315 sq. m./3500 sq. ft.)
• Transit stacks (140 sq. m./1500 sq. ft.)
• Garden behind the central building (400 sq. m./4300 sq. ft.)

In The Turbulences architectural extension (500 sq. m./5380 sq. ft):
• Reception area and meeting place
• Screening room (seating for 40 people)
• Café des Turbulences (seating for 40 people)
• Bookshop
Artistic and cultural project

A place for creation and research

If the Fracs are rather like museums in the way their collections are scientifically managed, they are above all places of dissemination, information and awareness-raising, and support for contemporary art.

The Frac Centre is at once a resource center, by way of its collection, and a place of artistic and architectural experimentation.

With its new facility, the Turbulences - Frac Centre will have an efficient tool for developing both an exhibition programme and a cross-disciplinary cultural programme focusing on the relations between art, architecture and design.

Its exhibitions will promote its unique collection of art and architecture.

The Frac Centre will organize exhibitions about artists and architects in its collection, as well as theme shows in association with other museums.

The Turbulences - Frac Centre will make its mark as a production platform for works by young architects, in particular through training programmes with art and architectural schools, as well as international workshops, as part of ArchiLab.

Its cultural programme will link its exhibitions with other art disciplines: theatre, music, literature, design, film, etc.

The Frac Centre will draw up its cultural programme in close association with its regional partners (lectures, performances, concerts, film screenings, etc.).

The Turbulences - Frac Centre will set up a People’s University, offering classes on contemporary art and architecture, open to one and all.

The Frac Centre will come across like a set or stage within which many artistic practices, based on architecture, will overlap.

The public at the heart of the project

The Fracs have always included the public at the heart of their way of thinking, through the development of art programmes throughout the regional territory, ensuring that the largest possible number of people are being informed about and made aware of art.

The Fracs are “a forum for debate and the production of ideas and cross-disciplinary projects, encouraging encounters between artists and different kinds of public” (Frac PACA).

The facilities of the so-called “new generation” Fracs have put “the public at the heart of the project”, developing “interactive platforms of exchanges and discussions with the public” (Frac Nord-Pas de Calais).

Welcoming the public has been included at the hub of the Frac Centre’s architectural programme, attesting to its desire to implement another type of place in which not only mediation activities take place, but where there is also a greater number of meeting places, and areas where people can quite simply “stay”, and “feel good”.

So the Turbulences, the cafeteria, the screening room, the garden, and other experimentation areas will be presented as “platforms” for meetings, where different kinds of public intermingle, the better to share in the creative process.

Visitors will have access to meeting places, the permanent collection, temporary exhibitions, and different cultural events, in order to have a new artistic experience within an innovative architecture.

In the Turbulences architectural extension, the public will actually be able to experiment with a “living” architecture, with many different facets, and an interactive façade, whose complex geometry is the result of the most advanced digital technologies.
Cultural programme
The Turbulences - Frac Centre will set up a cultural programme open to everyone, which will punctuate the year with regular meetings such as the Turbulent Saturdays.

Other disciplines will be invited to the Frac Centre: new technologies, films, sciences, and gastronomy, among others, will mingle with art and architecture, offering new angles on contemporary creation.

Turbulent Saturdays
Every third Saturday of the month the public will have access to a “Fracassant” Programme (French fracassant meaning deafening or sensational): carte blanche for artists, lectures, performances, etc.

People’s University
The Turbulences - Frac Centre will establish a People’s University through a programme of courses on contemporary art and architecture designed for every kind of public. Talks by architects, teachers and critics will help everyone to raise questions about the nature and challenges of art. Works from the Frac collection will also be presented during these courses.

Architecture + Experimentation
This lecture programme, organized with the Centre Region’s Maison de l’Architecture, involves architects oriented towards innovation and experimentation.

A work, a month
As a place where people live and create, the Turbulences - Frac Centre will also develop a specific programme connected with social networks. Some events (the exhibition of a work from the collections in The Turbulences) will be entirely designed for and with Internet users, via Facebook and Twitter.

ARCHI-Offbeat workshops
The young public will, for its part, have a chance to discover art and architecture in a playful and imaginative way by taking part in the ARCHI-offbeat workshops.
Regional, national and international influence

Regional influence

By coming to terms with the particular dimension of each territory, the Fracs have woven a unique network of partners in their respective regions. Each year, through their collections, they make several hundred loans, which are major vehicles of their information and awareness programmes. The Fracs thus come across as essential players in a territory’s cultural development.

The Frac Centre’s new facility will help it to strengthen its partnerships. The Frac Centre will implement artistic projects in close collaboration with its partners: schools, art schools, universities, associations, heritage sites, local authorities, etc.

The “intra muros” artistic project goes hand in hand with the establishment of registered staging places within the territory. The Frac Centre will set up specific programmes with these staging places, akin to distribution centers for its missions. These staging places may be a high school, a cultural association, a media center, or a local authority.

It is essential to create a lasting, high quality link between the Frac Centre and geographical areas less served than others by cultural amenities. By way of a specific programme, the Frac Centre will propose for these staging places regular events ranging from exhibitions, screenings and performances to the programming of lecture cycles.

The lycées and secondary schools in the Centre Region are arenas of exchange, knowledge and creativity solidly anchored in the Frac Centre’s activity. It is through the involvement of secondary school students at every stage of its projects that the Frac Centre wishes to establish nothing less than a secondary school cultural programme. This will be presented like a meeting point between different kinds of public, ranging from lycée-like college classes to associative groups, by way of random or incidental visitors. This contributes to the openness of the establishment to the outside world, thanks to a programme of exhibitions, meetings with artists, and lectures.

As a hive of culture, the Turbulences - Frac Centre will thus be able to contribute to the enlargement of its audiences, combining territorial action and interaction with the international context.

National influence

The Frac Centre enjoys a national sphere of influence through its many loans to museums and art centers, as well as through the establishment of joint productions of exhibitions and scientific consultancy for architectural exhibitions. It organizes workshops and lectures with architectural schools, registered to this effect with the Paris-Malaquais School of Architecture. The Cité de l’Architecture & du Patrimoine, the Pavillon de l’Arsenal and the MNAM-Centre Pompidou are all special partners in the implementation of projects.

International influence

The Frac Centre is the only collection to have been broadly exhibited in some 20 foreign museums over the past 15 years. Let us mention the following: in 1996, the MAK in Vienna; in 1999, the Congress Centre in Beijing; in 2001, Thread Waxing Space, StoreFront for Art and Architecture, and the Pratt Institute in New York; in 2004, the Mori Art Museum in Tokyo, with more than 500 works on view (335,000 visitors); in 2006, the Barbican Art Centre in London, and in 2008, the Fine Arts Museum in Taipei (85,000 visitors).

For the first time the public will have access to the collection through about a hundred works divided into four themes, offering the most complete vision possible of a unique collection, devoted
to experimental architecture (utopian, visionary, forward-looking) from the 1950s to the present day. A narrative dimension runs through the different sections, telling the story of alternative forms of architecture, oriented towards new ways of dwelling. Drawings and models will dialogue with filmed archives.

The permanent gallery's themes

Nomads

In the 1960s, as a reaction to postwar hyper-functionalism, architects in Europe developed mobile architecture projects rejecting any kind of inscription (inflatable architecture, light-weight architecture, etc.). Mythical projects by Archigram (Instant City; Living Pod) and Haus-Rucker-Co will be exhibited.

Architects exhibited: Chanéac, Constant, Peter Cook (Archigram), Coop Himmelb(l)au, François Dallegret, Guy Debord, Günther Domenig & Elfiried Huth, Yona Friedman, David Greene (Archigram), Haus-Rucker-Co, Pascal Häusermann, Antti Lovag, Klaus Pinter, Arthur Quarmby, Ionel Schein, Charles Simonds.

Grids

Through the grid motif it is possible to interpret the upheavals going on in the language of architecture from the 1960s to the present day. The rationalism of the modern grid was pushed to its limits in the radical architecture of the 1960s. The grid was literally deconstructed in the 1980s and 1990s, with "deconstruction", represented in the Frac Centre by various emblematic projects (Bernard Tschumi, Peter Eisenman, etc.).

Architects exhibited: Archizoom Associati, Constant, Peter Eisenman, David Georges Emmerich, Hiromi Fujii, Günter Günchsel, OMA (Rem Koolhaas), Claude Parent, Dominique Perrault, Gianni Pienta, Nicolas Schöffer, SITE (James Wines), Superstudio, Bernard Tschumi, Madelon Vriesendorp.

Blocs

In coming out against rationalism, André Bloc advocated bringing sculpture and architecture together. Organic architectural projects thus saw the light of day, including the Frac Centre collection with its many historical examples. One section will be devoted to Principe/Principle-architecture (Claude Parent-Paul Virillo) which posits the oblique function as a "3rd urban order".


Home

For the architect, the home is the object of experimentation, if ever there was. Home projects illustrating the diversity of these experiments will be on view, including Japanese houses (Toyo Ito, Shigeru Ban, Kengo Kuma, etc.). Items of furniture are also objects of experimentation, as is illustrated by the works of the designer Ettore Sottsass Jr. One section will be devoted to different kinds of experimental chairs, from the simple objects of the 1970s to digital experiments.

The circuit of works through the building

When the new facility opens, visitors will also discover in situ works produced by the Frac Centre in dialogue with the building’s architecture. Over time, the building’s circuit will be punctuated by hitherto unshown new works by artists and architects.

Matsys/Andrew Kudless

P_Wall, 2012-2013

Since 2004, the MATSYS agency has been exploring the relations between architecture, engineering, biology, and computer technology. Invited to produce a wall piece for the Turbulences - Frac Centre, Andrew Kudless, founder of the MATSYS agency, develops a relationship—in a dynamic and spectacular manner—with the architecture and identity of the new Frac: incorporating the grey colour and the lines of the corridor linking the reception area to the exhibition galleries, P_Wall offers visitors the vision of an organic wall where the textured effect of the surfaces contrasts with the cold roughness of the concrete, with which it is completely formed.

Vincent Mauger

Cocon/Cocoon, 2012-2013

From digital tools, the artist derives new systems of logic for designing objects. The work made in situ for the MicroLab is presented as an enveloping space, which involves a sort of physical experience of the work. This practicable sculpture will permit different uses and experiments (introductory circuit, workshops, etc.).
Presentation

Created in 1999 on the initiative of the city of Orleans, and co-founded by Marie-Ange Brayer and Frédéric Migayrou, ArchiLab, the international architectural laboratory, immediately proved itself to be a must event for a young generation of architects oriented towards research and experimentation. Since its creation, ArchiLab has become an unrivalled platform, enjoying a far-reaching national and international reputation.

A resource: the Frac Centre

In conjunction with the experimental architecture collections at the Frac Centre, each ArchiLab presents around thirty architects and an international symposium is organised.

Innovation and experimentation

The first ArchiLabs in 1999 and 2000 turned toward the emergence of new digital technology, questioning the practice of the architect and the diversification of their field of competence as well as the new urban challenges in a changing globalised world.

These events have enabled ArchiLab to acknowledge the conceptual and pragmatic transformations in the field of architecture and establish itself as a forward-looking international laboratory.

ArchiLab is:

• 8 events between 1999 and 2008
• 8 catalogues and as many lectures and international conferences
• More than 300 architects exhibited, including many who have been launched by ArchiLab, such as:
  - In Japan: Shigeru Ban, Kengo Kuma etc.
  - In Europe: MVRDV, Snøhetta, UNStudio, J. Mayer H., Cloud 9 (Enric Ruiz-Geli), Riegler Riewe, Ian*, West 8, Njuric+Njuric, Sadar Vuga etc.
  - In the United States: Neil Denari, Asymptote, Greg Lynn, Preston Scott Cohen etc.
  - In France: Frédéric Borel, Philippe Rahm, OBDC Odile Decq & Benoît Cornette, Didier Faustino, Jakob + MacFarlane, Lacaton & Vassal etc.

The 9th ArchiLab Event

Naturalizing Architecture
14 septembre 2013 - 2 février 2014

This new event is devoted to the interaction between digital architecture and sciences, exploring the challenges of the simulation of the living world.

Today, by using the most advanced digital tools, architects are applying self-generating processes which evolve in accordance with principles similar to those of nature. This architectural research overlaps with the field of biotechnologies, neurosciences and genetics.

Architecture here is presented like an organism closely interacting with the material conditions of its environment, in a state of ongoing adaptation, applying nothing less than a meta-ecology, which questions the very concept of nature.

X_TU architects, Fresh City, 2010
© Bloom Games

SPAN, Barcelona recursion, 2010
A word from the curators
By Marie-Ange Brayer & Frédéric Migayrou

The first ArchiLab Event explored the change in paradigm brought about by the emergence of digital technologies, focusing on a redefinition of the architectural arena and praxis within a new computational space.

Nowadays, the use of a new generation of computer assisted design software packages authorizes the ever more precise exploration of principles of evolution peculiar to the living world. The application of generative protocols based in particular on the use of cellular automata, genetic algorithms and organic simulation techniques, opens up unprecedented areas of investigation. Thanks to an advanced mastery of mathematics, architecture is henceforth played out on the level of matter and is tending towards an integral re-creation of the organic, made possible by science.

The utilization of these new processes radically redefines the conditions in which architecture is produced. Architects are going well beyond the boundaries of the discipline, and are now developing a praxis at the crossroads of design, computer science, engineering, and biology.

The use of computer assisted design and production procedures (FAO) and methods of robotized implementation have given rise to developments in architecture which are now reaching new degrees of complexity.

More broadly speaking, the systematization of simulation processes adapted to the living world marks the advent of a definitive mathematization, and, thereby, the end of the mechanical modern world. Somewhere between nature and technology, the material condition of the “artefact” can henceforth be transferred to other materials, and other scales.

Architecture now overlaps with the sources of molecular biology, even in processes of replication, transcription and translation of genetic material. In this way, architects can introduce complex models based on processes involving the self-generation of matter and incorporating programmatic, social, material and environmental variables. Control of these processes turns hybridization into a new architectural order.

In developing a critical discourse in relation to the so-called “sustainable” approach, the architects exhibited implement specific strategies in view of exceeding the distinction between nature and artifice. The command of principles for formation and growth unique to the domain of living organisms launches a genuine meta-ecology.

It is a profound change of the very concept of nature which is thereby undertaken, inseparable now from the artifice, from the technical and technological production.

We have seen the introduction of an “ecophysics of heterogeneous domains”, a condition which is as architectural as it is political and cultural. Architecture is capable, here, of interfering with the material conditions of its environment, and being transferred to other scales of production, from the nano to the macro, overlapping with other disciplinary fields, and being presented as a performative organism.

It is the breadth of this epistemological revolution, where architecture and sciences are intertwined within the computational field, that ArchiLab 2013 will be committed to illustrate through an international exhibition, which will present projects by some 35 architects, designers and artists, through the research of a new generation on the pulse in terms of biotechnology and simulation.

Marie-Ange Brayer
Director du Frac Centre

Frédéric Migayrou
Deputy Director of the MNAM-Centre Pompidou
The ArchiLab Symposiums

International symposium

Architecture and sciences: a new naturalness
Thursday 24 October 2013
9:30 am–6 pm
Scène Nationale, Orléans

In partnership with Réseau des maisons de l’architecture and the Maison de l’Architecture du Centre.

The problematics of ArchiLab 2013, involving digital architecture and the sciences will be broached at an international symposium which will bring together ten exhibited architects. Because of the new digital technologies, the same processes of “naturalization” are at work in architecture and design, as well as in the scientific disciplines.

The architects will present their latest research, dealing with changes occurring in the very concept of nature and ecology.

Participants: Alisa Andrasek (Biothing), ecoLogicStudio, MarcosandMarjan, Philippe Morel (EZCT Architecture & Design Research), Marc Fornes (MARC FORNES &THEVERYMANY™), Michael Hansmeyer, Achim Menges, Minimaforms (Theo Spyropoulos), soma, Anouk Legendre (X_TU Architects).

Interdisciplinary Conference

The nature(s) of the artifact (with reservations)
Friday 25 October 2013
10 am–6 pm
Domaine National de Chambord

Under the scientific supervision of Frédéric Migayrou.

This interdisciplinary conference will encompass human sciences and basic sciences. Art and architectural historians and scientists (biologists, geneticists, specialists in living world simulation systems) will question the sources of the Renaissance and Mannerism by linking them with the present-day field of digital technologies, marked by the simulation of living world growth phenomena. The Château de Chambord, quintessence of the merger between art and science, will act as the ideal setting for these debates.

Participants: Patricia Falguières, Annick Lesne, Giuseppe Longo, Frédéric Migayrou, Spyros Papapetros, Franck Varenne, Anthony Vidler.
Archilab 2013 participants

Architects

[AY]A Studio (Jorge Ayala)
France / Mexico

B+U
USA

Biothing (Alisa Andrasek)
United Kingdom

Niccolo Casas
Italy

ecoLogicStudio
United Kingdom

Eragatory (Isaie Bloch)
Belgium

EZCT (Architecture & Design Research)
France

Faulders Studio (Thom Faulders)
USA

Gage / Clemenceau Architects
USA

Gramazio & Kohler / Raffaello d'Andrea
Switzerland

Michael Hansmeyer (avec Benjamin Dillenburger)
Switzerland

Akihisa Hirata architecture office (Akihisa Hirata)
Japan

junya.ishigami+associates (Junya Ishigami)
Japan

Kokkugia
Australia / United Kingdom

MAD Architects
China

MARC FORNES & THEVERYMANY™
USA

MarcosandMarjan
United Kingdom

MaterialEcology (Neri Oxman)
USA

Matsys (Andrew Kudless)
USA

Achim Menges
Germany

Minimaforms
United Kingdom

Plasma Studio
United Kingdom

Ruy Klein
USA

Jenny Sabin
USA

servo
USA / Sweden

soma
Austria

SJET (Skylar Tibbits)
USA

SPAN
Austria

Supermanoeuvre
Australia / USA

Wendy Teo
United Kingdom

Daniel Widrig
United Kingdom

Xuberance (Steven Ma)
Austria

X_TU Architects
France.

Designers & fashion designers

Cmmnwlth.
USA

Iris van Herpen
The Netherlands

Joris Laarman Lab
The Netherlands

Arts

Federico Diaz
Czech Republic

Perry Hall
USA

Casey Reas
USA

Marius Watz
USA / Sweden
Focus

Bloom Games
(Alisa Andrasek and Jose Sanchez)

_Bloom, 2012_

Bloom is presented as a participatory “urban toy”, developed on the basis of computer concepts and capable of stimulating creativity. Commissioned to celebrate the 2012 Olympic and Paralympic Games, _Bloom_ is a social and collective installation, created by passers-by who play the game of assembling and dismantling these plastic modules, like a game of organic Lego, composing the skeleton of a hybrid architecture. _Bloom_ is thus both urban furniture in the public place and participatory installation. The work, which is completed in a totally free way by the public, questions the creative capacity of the collective in the invention of new architectural forms.

Iris van Herpen

_Hybrid Holism, 2012_

In her works, Iris van Herpen combines innovative processes and materials with the traditional techniques of sewing. The _Hybrid Holism_ collection (2012) draws inspiration from synthetic biology and the technologies of the living world. Here, Iris van Herpen challenges the interactive potential between natural and artificial systems, capable, in her view, of decompartmentalizing fashion, design, and architecture, and making evolving disciplines from them. The young fashion designer has come up with a collection where clothes and bodies seem to contaminate one another in order to produce hybrid silhouettes, like this dress made with 3D printing, where the diaphanous resin lengthens the body in a form of baroque prosthesis. For her pieces, Iris van Herpen also works regularly with architects (Isaie Bloh, Daniel Widrig, Neri Oxman, Julia Koerner).

Michael Hansmeyer
with Benjamin Dillenburger

_Grotto Prototype, 2012_

This pavilion, specifically designed for ArchiLab as part of the Frac Centre collection, will offer a unique illustration of the new complexity ushered in by mastery of design and digital manufacturing tools. Hansmeyer and Dillenburger have had recourse to form-generating computer procedures to develop this architecture marked by the abundance and wealth of its details due to the use of subdivision algorithms which fragment form ad infinitum. The very high resolution of the whole work, made with sandstone, has been obtained through the most state-of-the-art 3D printing techniques. This immersive environment calls to mind the Renaissance Grotesque, that hybrid art where nature and artifice were merged in a single order.
MARC FORNES & THE VERYMANY™

**Double Agent White, 2012**

Marc Fornes will be presenting the *Double Agent White* pavilion, made in 2012 as part of a residency at the Atelier Calder (Saché) and featuring in the CNAP collections. That same year, in London, Fornes produced the Pop-up Shop for Louis Vuitton, in collaboration with the Japanese artist Yayoi Kusama. With this prototype, built on a 1:1 scale, Marc Fornes continues his exploration of the potential of the digital tool, conducted on the scale of the pavilion. *Double Agent White* is a variation around the bedroom, a simple unit which Fornes sees as a space with apertures, made up of interlocking spheres. This complex geometry is the outcome of a rigorous and pragmatic approach, based on digital procedures permitting optimized design and manufacture.

**Achim Menges**

**Meteorosensitive pavilion, 2012**

Achim Menges will especially design a pavilion for the Frac Centre that is the culmination of research into material behavioural patterns and bio-mimetics, undertaken over the past few years in his laboratory at the ICD (Stuttgart). Here, Menges develops a performative architecture, capable of interacting with its environment like a living organism, because of the utilization of the qualities inherent to the materials. Presented for the first time in its entirety, this pavilion will react directly to hygroscopic variations: the corollae, cut out in wooden panels, will open and close depending on the degree of ambient humidity, thus combining an environmental response with a novel spatial experience.

**soma**

**One Ocean – Thematic pavilion EXPO 2012 Yeosu,**

South Korea, 2009-2012

The *One Ocean* pavilion, which was made as part of EXPO 2012, unfurls its artificial topography between earth and sea, in the old industrial port of Yeosu. The building with its dynamic and fluid architecture, which the architects wanted to look like the ocean, offers contrasting facets. This white monolith which surveys the sea is made of stairs and continuous spaces. It is informed by a kinetic façade, nothing less than a technical innovation based on bio-mimetic principles. The environmental issue lies at the heart of its design. Digital simulation programmes have also acted as control and optimization tools for the energetic performances of this architecture, which implements innovative technical solutions, especially for aeration and ventilation.
Programme of events

The 30 years of Fracs
Les Abattoirs, Toulouse
Les Pléiades
28 September 2013 – 5 January 2014
Group show of the 23 Fracs.

Chronomanifestos
Carte blanche for Bernard Tschumi
As part of the “30 years of Fracs” celebrations, the Frac Centre is inviting a major figure in contemporary architecture, Bernard Tschumi, to organize an exhibition based on works from its collection.

Bernard Tschumi has opted for the idea of a manifesto, using one or more projects produced each year between 1950 and 2010. “Chronomanifestos” offers a journey through the Frac’s collection, from radical architecture to deconstruction, right up to the new digital technologies. Bernard Tschumi thus makes the link between the radical nature of experiments undertaken in the 1960s and 1970s and architecture which questions its own boundaries within the wider cultural and political arena. The exhibition will be accompanied by a “manifesto” publication.

Intramuros
Open doors
To celebrate its opening, The Turbulences - Frac Centre invites the public to participate in the open doors during the weekend of the European Heritage Days, the 14th and 15th September. Spanning these two days, visitors will have free access to the building’s architecture as well as the permanent gallery and the 9th ArchiLab. Guided tours will take place every hour. Musical and festive events, special meetings with the associate architects and artists will also take place over these two days.

Programme available from August 2013.
Further informations: www.frac-centre.fr
Archipel

To celebrate its opening, as well as its 30th anniversary, the Frac Centre is joining with its cultural partners to propose a special programme of associated events both foreshadowing the opening, and during the opening period.

Exhibitions, lectures, study days, and conferences will all offer opportunities for meetings with the public.

Programme (with reservations)

Exhibitions

Until 13/10/2013
Nature et architecture, collection du Frac Centre
Muséum des sciences naturelles, Orléans

27/09 - 09/11/2013
New York Aquarium, de Cloud 9. Collection Frac Centre
Maison de l'architecture du Centre, Orléans

05/09 – 31/122013
Works of art from Frac Centre collection
Gare d'Orléans et Gare d'Austerlitz, Paris

05/09 – 05/10/2013
Architectures de Papier : l'aventure radicale, collection du Frac Centre
Médiathèque, Orléans

07/09 - 29/09/2013
Insectes bâtisseurs
Muséum des sciences naturelles, Orléans

10/09 - 28/09/2013
Louidgi Beltrame
Médiathèque, Montoire-sur-le-Loir / Lieu relais

14/09 – 28/09/2013
Archilab, 1999-2013. Un laboratoire unique pour l'architecture
LA BOX, ENSA Bourges

10/10 – 29/11/2013
Dessins / croquis d'architecture, collection du Frac Centre
CAUE 28, Chartres / Lieu relais

13/11/2013 – 02/03/2014
Dernières nouvelles de l'éther
Carte blanche au Frac Centre
La Panacée, Centre d'art contemporain, Montpellier

18 January - 16 March 2014
Photographies from Frac Centre collection
Ville d'Aubigny-sur-Nère

Cultural programme

23th October 2013
Marc Fornes
Conference
Pavillon de l'Arsenal, Paris

10th October 2013
Parole à l'architecture, Collectionner l'utopie
Projection of the documentary of Julien Donada, Les Visionnaires followed by a round table
Centre Pompidou, Paris

26th October 2013
Symposium Réseau des maisons de l'architecture
Musée des Beaux-Arts d'Orléans

29th October 2013 – 18h
Lacaton & Vassal Conference
Cycle Architecture + Expérimentation with la Maison de l'architecture du Centre
Médiathèque d'Orléans

6th November 2013
Marie-Ange Brayer
Conference around The Turbulences – Frac Centre on the invitation of the Orléans Museums friends
Musée des Beaux-Arts d'Orléans

28th November 2013
Study day with Adrien Sina and Didier Faustino
Esba TALM - site de Tours

3th December 2013
Conference, Dominique Perrault
Cycle Architecture + Expérimentation with la Maison de l'architecture du Centre
Médiathèque d'Orléans

Further informations: www.frac-centre.fr
Publications & film

Catalogues of the Frac Centre Collection

Architectures expérimentales 1950-2012
(2003 edition, updated and enlarged), 640p., éditions HYX.
To be published in September 2013.
This publication proposes a journey through the architectural and urban experiments in the Frac Centre collection, from the 1950s to the present day.
Through the emblematic projects of some 150 architects and ten essays, this book reveals the radical and visionary approaches which created upheavals in both architecture and city planning in the latter half of the 20th century.
Authors: Andrea Branzi, Marie-Ange Brayer, Günter Feuerstein, Christian Girard, Frédéric Migayrou, Gianni Pettena, Michel Ragon, Georges Teyssot, Mark Wigley.

Art & Architecture
(hitherto unpublished), 304p., éditions HYX.
To be published in September 2013.
Many artists produce works that are connected with architecture. Artists make use of architecture in its utopian dimension. Through the works of 65 artists, ranging from Dan Graham to Matta-Clark, and Andreas Gursky to Berdaguer-Péjus, this book questions the way in which art production from the 1960s to the present day has been informed by architecture.
A dozen essays shed a probing light on these challenges, from early 20th century modernism to current artistic practices.
Authors: Bernard Blistène, Marie-Ange Brayer, Thierry Davila, Elie During, Nadine Labedade, Elke Mittmann et Jean-Christophe Royoux, Jane Rendell, Pascal Rousseau, Clara Schulmann, Béatrice Simonot, Philip Ursprung, Aurélien Vernant.

Bernard Tschumi, Chronomanifestes.
Frac Centre collection
Writings by Bernard Tschumi, 128p., French/English, éditions HYX. To be published in September 2013.
As part of the "30 years of Fracs" celebrations, Bernard Tshumi has opted for the idea of a manifesto, using one or more projects produced each year between 1950 and 2010. “Chronomanifestes” offers a journey through the Frac’s collection, from radical architecture to deconstruction, right up to the new digital technologies.

Catalogues

ArchiLab 2013
Naturalizing Architecture
Edited by Marie-Ange Brayer and Frédéric Migayrou, 260 p., French/English, éditions HYX. To be published in September 2013.
The 9th Archilab event will be accompanied by a publication presenting the work of the architects, artists and designers being exhibited. Essays by internationally renowned philosophers, mathematicians and scientists will set the projects on view within the broader framework of a line of thinking about the theoretical and architectural challenges posed by the simulation of the living world.
Authors: Marie-Ange Brayer, Frédéric Migayrou, Graham Harman, Annick Lesne, Giuseppe Longo et Nabil Zakhama, Rivka Oxman, Lambros Malafouris, Franck Varenne.

The Turbulences - Frac Centre architects Jakob + MacFarlane
Monograph, 120 p., French/English, éditions HYX. To be published in September 2013.
This book retraces the origins of a novel architecture, deciphering the conception of the project and its digital modelling; the construction phases, from factory to on-site assembly; the contextual challenge of the building; and the intervention of Electronic Shadow’s mediafacade.
Authors: Marie-Ange Brayer, Barry Bergdoll, Nadine Labedade, Aurélien Lemonier, Céline Saraiva.
Documentary

Les Visionnaires
Une autre histoire de l’architecture
A film by Julien Donada
based on an original idea by Marie-Ange Brayer
Produced by Rebecca Houzel for Petit à Petit Production.
Length: 71 minutes

The 1960s saw the emergence of a young generation of architects who rejected the doxa of hyper-functionalism, and dreamed of another way of conceiving both city and habitat. Be it spatial and moveable cities, bubble, underground or flying homes and houses, etc., architecture became an area of experimentation borne along by technological innovation and open to many different territories.

This film, made by Julien Donada, delves into the fantastic world of architectural utopias, relying on the leading works in the Frac Centre collection, and on the testimony of many figures in that generation. For the first time the general public is being offered an original historical reading of “visionary” projects which have today become icons of contemporary culture.

With: Guy Rottier; Yona Friedman; Michel Ragon; Pascal Häusermann; Antti Lovag; Claude Parent; Jean Nouvel; Archigram: Peter Cook et David Greene; Coop Himmelb(l)au: Wolf Prix; Hans Hollein; Archizoom: Andrea Branzi; Frédéric Migayrou; Superstudio: Adolfo Natalini et Gian Piero Frassinelli; Gianni Pettena; Marie-Ange Brayer.
VISITING THE FRAC CENTRE

The Turbulences: a place welcoming the public

Guided tours

The Week-end Rendez-vous
Guided tours for individual visitors every Saturday and Sunday at 2.30 and 4 pm.

Flash visits (30 min.)
Discover a Frac Centre show, work or architecture during the lunch hour.

Family visits
Children accompanied by their parents can discover the current exhibition by way of a playful circuit, accompanied by a Frac Centre docent.

The MicroLab, an educational workshop
The workshop will be a multi-purpose place, adapted to an open programme of activities (training courses, workshops, educational presentations, small exhibitions) targeting different kinds of audience (children, teenagers, students, professionals involved in education and community activities, etc.) Different systems and arrangements will make this venue a place of discovery, creation, and exchange.

The ARCHI-Offbeat Workshop
Here, children devise their own architecture in the company of a visual artist running the workshop.

Interactive tools for visits

Visioguides
A visioguide (French/English) will offer a 90 minutes tour through the emblematic works in the Frac Centre’s permanent collection and the most noteworthy projects in the ArchiLab exhibition.

Smartphone app.
The app will provide information about the Turbulences - Frac Centre and current events in it. It will introduce the Frac Centre collection through a playful intervention and a programme focusing on the idea of utopia.

Services

The café des Turbulences
As a meeting place to gather with friends before and after an event at the Frac Centre, the cafeteria offers light refreshments and a tea room during opening hours (seating for 40 persons).

Screening room
The screening room will accommodate lectures, encounters, a programme of films about architecture, and videos of architects and artists (seating for 40 persons).

The bookshop
Here, visitors will be able to find exhibition catalogues, monographs of artists and architects exhibited in the exhibitions, catalogues of the collections, by-products and peripheral items, etc.

Guided tour of the exhibition Monolithes, 2010, FRAC Centre, Orleans

Workshop during ArchiLab Europe 2008, Architecture Stratélique, Orleans
The Turbulences – Frac Centre have been realized with the assistance of:

Contracting authority

Overall budget:

€12,6 m (before tax)

The financing is based on a partnership with the following:

- Conseil régional du Centre: 47 %
- Ministère de la Culture et de la Communication, Direction Régionale des Affaires Culturelles du Centre: 22,5 %
- Project jointly funded by the European Union with the FEDER: 21,5 %
- City of Orléans: 9 %
APPENDICES

Biographies

Jakob + MacFarlane
Architects, urban planners, designers
13, rue des petites écuries, 75010 Paris
Tél.: 33 (0) 144 79 05 72
E-mail: info@jakobmacfarlane.com
Website: www.jakobmacfarlane.com

Dominique JAKOB
2013: Advisor Architect for the city of Toulouse
2013: Member of the board of directors
1994-2004: Teacher at the École d’Architecture
Paris-Villemin / Malaquais
1998-99: Visiting teacher at the Ecole Spéciale d’Architecture
1991: Architect’s degree DPLG Ecole d’Architecture
Paris-Villemin
1990: BA in Art History, Université de Paris I

Brendan MACFARLANE
2008: “Visiting professor”, University of Florida, USA
2007: “Visiting professor” Harvard Design Graduate School, USA
2006-07: “Visiting professor” at Sci-Arc in Los Angeles, USA
2003: “Visiting professor Masterclass” at the Berlage Institute, Amsterdam, Netherlands
1998-99: Visiting teacher at the Ecole Spéciale d’Architecture, Paris, France
1996-98: Teacher at the Bartlett School of Architecture in London, UK
1996: “Visiting professor” at the Berlage Institute, Amsterdam, Netherlands
1990: Master of Architecture, Graduate School of Design, Harvard University, Boston, USA
1984: Bachelor of Architecture, SCI-Arc (South Calif. Inst. of Architecture), Los Angeles, USA

Jakob + MacFarlane Architects is a multicultural and multidisciplinary architectural agency based in Paris, France. Its work explores digital technologies both as a conceptual input and as a means of manufacture, using new materials as a way of creating a more flexible, more responsible and more immediate environment.


Their works in progress are the headquarters of the Euronews Company, Quai Rambaud in Lyon, the Conservatoire de Danse et de Musique at Noisy le Sec, the École Supérieure des beaux-arts de Pau, the Maison S à Boulogne Billancourt, as well as the downtown area of Knokke-Heist in Belgium. Jakob + MacFarlane has been invited to take part in restricted international competitions such as the future Musée d’art contemporain de Liège and the International Competition for the Taipei Performing Arts Center, Taiwan, for which they received a special mention.
Electronic Shadow

**Naziha MESTAOUI**

Born in Brussels in 1975, she graduated as an architect DPLG (La Cambre, Brussels). Very early on, she worked on the integration of technologies in architecture and urban planning.

**Yacine AIT KACI**

Born in Paris in 1973, he is a graduate of the École Nationale des Arts décoratifs de Paris, where he took multi-disciplinary multimedia courses. As artistic director, then director, he has made a series of multimedia and television works.

Naziha and Yacine met in 2000 and created the duo Electronic Shadow, with the purpose of merging their respective areas of creative activity. Founded at the dawn of the digital age, Electronic Shadow has been continually at work on a total hybridization between matter and the immaterial, reality and imagination, by turning the architectural space into a medium, and the image into an inhabitable environment. Electronic Shadow’s praxis, at the crossroads of art, design, architecture and spectacle, has since given rise to many works exhibited, tried and tested, and awarded prizes throughout the world (Grand Prix at the Japan Media Art Event, Moma, Moca in Shanghai, Centre Georges Pompidou, two international tours, etc.). Their first retrospective, “Futuréalismes” drew almost 35,000 visitors to the Musée Granet in Aix-en-Provence in 2005.

[www.electronicshadow.com](http://www.electronicshadow.com)

---

**One or two dates**

**Exhibitions**

**2010-2011:**

Retrospective exhibition, Musée Granet, Aix-en Provence, France

**2010:**

“Vibration - Nuit Electro 2010” (sets and direction), Grand Palais, Paris, France

“Superfluidity, File”, São Paulo, Brazil

“La mer pour mémoire, Ex-îles”, Château des Ducs de Bretagne, Nantes, France

“Water For All”, exhibition 1.618 – 2nd exhibition

**2007:**

“Nuit Blanche”, Cathédrale d’Amiens, Amiens, France

“L’arbre blanc », Festival international du film de Cannes - Plage du Majestic, Cannes, France

Exhibition “The troubled Waters of permeability”, Parker’s Box gallery, New-York, United States

**2005:**

“Focus”, International Furniture Fair, Milan, Italie

“3 minutes²”, Japan Media Art Festival, Tokyo Metropolitan Museum of Photography, Tokyo, Japan

**Prizes**

Grand Prix of the Japan Media Arts Event, Art division for installation “3minutes²” International Competition for Media Arts

Laval Virtual Trophy 2005

Category Architecture, Art and Culture for H2O.

Electronic Shadow received the trophy for the second year running

Ministry of Research prize, 1999

Prix Leonardo - Prix international Science et audiovisuel 1999

For subjects produced for the TV programme “Archimède” broadcast on Arte.
Agence ruedurepos
(Christophe Ponceau and Mélanie Drevet)

After studying interior architecture at the Boulle school, and then obtaining a DPLG architect’s degree, Christophe Ponceau studied landscape with the landscape gardener Gilles Clément. Mélanie Drevet, an engineer and landscape gardener, is a graduate of the INHP (Institut de l’Horticulture et du Paysage) in Angers. They set up their agency in 2001 and developed an interest in every area of the landscape, from the largest scale (urban studies, analysis of major sites) to the smallest (private gardens), but they also created several public places in working-class neighbourhoods, such as Place Voltaire in Lyon (III) and Square Denise Buisson in Montreuil (93). They have also taken part twice in the Festival International des Jardins at Chaumont sur Loire.

Christophe Ponceau more particularly manages projects involving events and exhibitions: he took part in the “Planetary Garden” adventure, an exhibition held at the Grande Halle de la Villette for the opening of the year 2000 ceremonies. He designed the French pavilion at Expo 2008, the international exposition in Zaragoza. He works regularly at the Villa Noailles, and has just completed the gardens of the Sezz Hotel in St. Tropez, as well as the Olivier de Serres Gardens at the Domaine du Pradel. For Cartier, the jeweller, he is creating the “Cartier Naturellement” set. At the present time he is curating the “Lausanne Jardin” show (with the designer Adrien Rovero), which will next be held in 2014.

Mélanie Drevet is responsible for studies involving urban redevelopment and, in particular, the residential development of housing estates for various social sponsors (part of ANRU funding). Her work is focused especially on projects where the social dimension is present.

The ArchiLab curators

Frédéric Migayrou

Marie-Ange Brayer
Since 1996, the art historian Marie-Ange Brayer has been director of the Regional Fund for Contemporary Art in the Centre region (Frac Centre) in Orléans, whose collection is devoted to experimental architecture and the relations between art and architecture. A resident at the Académie de France in Rome, Villa Médicis (1994-96), co-founder with Frédéric Migayrou of ArchiLab, exhibition curator (“Pavillon français”, viii International Biennale of Architecture in Venice, with B. Simonot, 2002; “ArchiLab”, Mori Art Museum, Tokyo, 2004), and art and architectural critic, M.-A. Brayer is currently at work on a doctoral thesis at the EHESS in Paris, whose subject is the architectural model as an object of experimentation.
The participants in the ArchiLab exhibition

Architectes

[AYA Studio (Jorge Ayala)]

Research by the Mexican architect Jorge Ayala blends design, fashion, architecture and urban landscape. He advocates a low tech* approach with handcrafted objects designed thanks to digital tools, ‘post-digital curiosities,’ chimera in strange forms whose heterogeneous nature revives the the cabinet of curiosities aesthetic. A student first of all at ENSA Val de Seine then at the Architectural Association (AA), in 2010 Jorge Ayala created the [AYA] Studio laboratory. The same year, he founded the AA School Paris, housed at the Museum of Decorative Arts that he has managed since. In 2011, he became the youngest member of the jury in history of the prestigious RIBA prize.

B+U (Herwig Baumgartner and Scott Uriu)

In addition to working on projects for homes and businesses, the agency founded in 2000 develops innovative proposals for cultural, event (Soundcloud, 2008) and urban programmes (City Futura, 2010). B+U pairs state-of-the-art technology from the film, automobile, medical or aerospace industry, with traditional techniques. The digital tools enable architects to combine environmental parameters, notably sounds and magnetic waves. B+U received the Maxine Frankel Award (2010) and its work has been extensively exhibited and published, amongst others the monographs Vectorfields (2010) and B+U DesignPeak 12 (Equal Books, 2012).

BIOTHING (Alisa Andrasek)

Created in 2001 by Alisa Andrasek, the transdisciplinary laboratory BIOTHING is based on genetic models to develop forms which reflect complex models of digital behaviour. In this way Andrasek seeks, through the use of software such as Cellular Automata*, to develop architecture projects in interaction with the complexity of their environmental context. A graduate of the University of Zagreb and the University of Columbia, and teacher at the Bartlett School of Architecture since 2011, she has received several prizes. Her works have been the subject of several exhibitions including the Frac Centre in 2009 and the Centre Pompidou in 2012. Her installation Bloom was produced for the London Olympic Games in 2012.

ecoLogicStudio (Claudia Pasquero and Marco Poletto)

Operating on different scales, this team seeks to stimulate a new ‘ecology’ of space. Founded in London in 2004, ecoLogicStudio built international recognition through its innovative work on architecture, integrating the fields of biology, sociology and algorithmic* design. Graduates from Turin Polytechnic and teachers at the UCL Bartlett School of Architecture in London, ecoLogicStudio has developed installations for architecture biennales (Venice in 2008 and 2010, but also Seville, Istanbul or Milan).

Eragatory (Isaie Bloch)

From architectural projects to design objects, via his collaborations with stylist Iris Van Herpen, the Belgian architect Isaie Bloch designs mutant projects with grotesque or even monstrous aesthetics which are in the form of mathematical solutions which integrate phenomena of the non-completion, mutation or decomposition of the material. Isaie Bloch is a graduate of the Sint-Lucas School in Gand in Belgium and the Universität für Angewandte Kunst in Vienna.
EZCT Architecture & Design Research (Philippe Morel)

Founded in 2000 by Philippe Morel, Jelle Feringa and Félix Agid, EZCT questions the overlapping of sciences and technology in the architectural field. The agency takes advantage of unprecedented design opportunities offered by the generative systems* from the association of mathematical and biological sciences. EZCT has participated in many exhibitions and was joint winner of the competition for the Pavillon Seroussi in 2007. Exhibition curator and author of many essays, Philippe Morel has co-directed the Digital Knowledge programme at ENSA Paris-Malaquais since 2010. He taught at the Architectural Association, the Berlage Institute and since 2012, has taught at the UCL Bartlett School of Architecture.

Faulders Studio (Thom Faulders)

Committed to ecological research, Thom Faulders envisages architecture like a continuously evolving ecosystem. Internationally renowned for his constructive innovations and research on hybrid materials, he experiments, through his installations and productions alike, new ways of living. Exhibited internationally, his work is part of the permanent collection of the San Francisco Museum of Modern Art. He taught at UC Berkeley College of Environmental Design then at the California College of the Arts and was awarded the Emerging Architect Prize by the Architectural League of New York.

MARC FORNES & THEVERYMANY™

A graduate of the Strasbourg School of Architecture, the Stockholm KTH Royal Institute of Technology, Marc Fornes studied at the Architectural Association in London in 2004. He joined Zaha Hadid’s agency and later collaborated with François Roche. Within his THEVERYMANY™ laboratory, he has a pragmatic approach to architectural experimentation, multiplying prototypes and installations on a 1:1 scale from a work unique to algorithmic* writing. In 2010, he undertook a series of ‘non standard’ pavilions through which he tests out a multidimensional architectural space (Synesthésie, Saint-Denis, 2010; Centre Pompidou, 2010-11; Frac Centre, 2011; Saint-Louis, 2011; Miami Art Basel, 2011; Atelier Calder, Saché, 2012).

Gage / Clemenceau Architects (Mark Foester Gage and Marc Clemenceau Bailly)

Founded in 2004, this office combines research on the potential of digital tools and productions. The complex geometries that it develops are projected on multiple scales, from the design object to housing. From 2011, the architects have produced a series of shops for the stylist Nicola Formichetti, including the Pop-up store in New York, an immersive environment comprised of a multitude of mirrored facets. In 2010, the agency was chosen represent the United States at the International Beijing Biennale where it exhibited the residential complex L.E.S. (New York, being constructed). Awarded by the AIA New Practices award (DATE) and winner of the New York Architectural League’s Young Architects Forum (2008), the work of this agency is widely published and exhibited (MoMA, the Museum of the Art Institute of Chicago, Deutsches Architektur Zentrum in Berlin).

Gramazio & Kohler (Fabio Gramazio and Matthias Kohler) / Raffaello d’Andrea

The Swiss architects Fabio Gramazio and Matthias Kohler develop a multidisciplinary practice characterised by robotic fabrication. In 2005 they founded the first robotics laboratory at the Swiss Federal Institute of Technology (ETH Zürich), Gramazio & Kohler tested out the implementation of computer-assisted architecture by a move on a scale of 1:1, from the computer file to production. In 2011, they developed the use of aerial robots in the construction of a ‘vertical village’ (Flight Assembled Architecture, 2011, with the engineer Raffaello D’Andrea) exhibited for the first time at the Frac Centre. Frequently awarded (Swissfiber Award, 2005), their projects have been subject to many exhibitions (Venice Biennale of Architecture, 2008; Storefront Gallery for Art and Architecture, New York, 2009).
Michael Hansmeyer

Inspired by cell division, Michael Hansmeyer explores the use of algorithmic writing in architecture. With a biomimetic approach, he reproduces procedures for generating forms visible in nature and develops research on the relationships between mathematics and ornamentation. His complex systems from subdivision algorithms encapsulate the principles of order and symmetry in a free and organic expression of the shapes. Born in Germany in 1973, Michael Hansmeyer is a Business & Administration graduate (Insead Fontainebleau) as well as a graduate of architecture (University of Columbia). He works with the architects Herzog & de Meuron and today carries out research within the architecture department of the ETH Zürich in Switzerland.

Akihisa Hirata Architecture Office

The Japanese architect Akihisa Hirata builds on organic and natural principals for his architecture marked by a geometric elegance and structural innovations. He defines his approach by the concept of ‘convolution,’ which expresses the entanglement which should according to him exist between architecture and the environment, between the artificial and the natural. Graduating from the University of Kyoto, Hirata worked for Toyo Ito Associates before creating his own agency in Tokyo in 2005. He has created accommodation and individual houses as well as commercial and cultural projects, notably the Bloomberg Pavilion for the Museum of Contemporary Art in Tokyo in 2011. In 2012, with other architects he received the Lion d’Or for his contribution to the Japanese pavilion during the 13th Venice Biennale and benefitted from his first international individual exhibition at the Architectural Association in London.

Kokkugia

The Kokkugia agency has operated between London, Melbourne and New York since 2004. The workshops they provide within universities such as Columbia and the Architectural Association serve as platforms to the exploration of methods of generative design which target a larger spatial complexity. It is notably the case with the Swarm Morphologies programme, a series of digital investigations of the potential of multi-agent systems for the elaboration of structural, environmental and material strategies, developed on the scale of the construction. Kokkugia put their expertise to work for many engineering agencies and offices like ARUP. Their work has been widely published and exhibited (Australian curators of the Beijing Biennales, 2008 and 2010).
MAD Architects

Founded in 2004 and headed by the Chinese architect Ma Yansong – joined by Dang Qun and Yusuke Hayano (Tokyo) –, the MAD agency came to notice first with its two residential towers: Absolute Tower, prize-winners at an international competition in Toronto (Canada, 2006 - 2012), then with the Ordos Museum (China, 2012). Working against any kind of rationalist approach, the agency draws from the Asian landscape tradition to design a contemporary architecture with fluid forms. In addition to numerous projects in the pipeline – residential, cultural, shops and offices –, Ma Yansong is developing a praxis that involves art, working in particular with Olafur Eliasson (2010). The agency’s works have been regularly exhibited (Vitra Design Museum, MAXXI, Guggenheim, Shenzhen & Hong Kong Bi-City Biennial), and were also shown in a retrospective exhibition held in 2012 (ICO Museum, Spain).

MarcosandMarjan (Marcos Cruz and Marjan Colletti)

Founded in 2000, the MarcosandMarjan agency develops a practice oriented toward the development of new morphological, ecological and ‘corpological’ conditions. It is also intended to evolve the application possibilities of computer assisted design techniques to architecture. MarcosandMarjan has participated in many exhibitions (Venice Biennials, 2004 and 2006; Institute for Cultural Policy, Hamburg, 2005; Sci-Arc, Los Angeles, 2010) and has produced several installations as well as the Feira do Livro of Lisbon pavilion, 2005. A graduate of the University of Innsbruck and the Bartlett School of Architecture, Marjan Colletti currently teaches in these two institutions. Marcos Cruz is a graduate of the Escola Superior Artística do Porto and the Bartlett School of Architecture and currently acts as the director.

MaterialEcology (Neri Oxman)

The architect Neri Oxman is inspired by principals of natural formation and growth to conceive constructive systems with physical and environmental performances. She supports new design intelligence and a new sustainable materiality: a ‘Nature 2.0.’ Neri Oxman uses computer technology to calculate forms from contextual data (light, temperature, humidity, etc.) whilst attaching great importance to the multi-functioning of the synthesis materials. Neri Oxman studied architecture at the Technion d’Alfa and at the Architectural Association then founded MaterialEcology in 2006. A teacher at the Massachusetts Institute of Technology (MIT), she was nominated Revolutionary Mind by SEED magazine in 2008 and has received many prizes for its work, regularly exhibited internationally (Venice Biennale, 2004; MoMA, 2008 and 2010; Beijing Biennale, 2006, 2008 and 2010; Centre Pompidou, 2012).

Matsys (Andrew Kudless)

The Matsys agency, founded by Andrew Kudless in 2004, develops an experimental and multidisciplinary approach to architecture, exploring the relationships between architecture, engineering, biology and computing. Most of the research that it develops is based on biomimetic principals and mathematical models (Voronoï Morphologie, 2005-2006) likely to find applications on an architectural scale. An architect based in San Francisco where he teaches at the California College of the Arts, in 2004 Andrew Kudless obtained the FEIDAD prize (Far Eastern International Digital Architecture Design). His work has notably been exhibited at the SFMoMA (2009), and at the Centre Pompidou for the ‘Multiversités créatives’ (Creative Multiversity) exhibition (2012).
Achim Menges

At the junction of biology, information technology, materials science and computer assisted manufacturing, research by Achim Menges (1975) implements a ‘morphoeological’ and performative architecture. Structural, material, programmatic and contextual data are combined to design buildings which will react with the environmental conditions. A member of OCEAN NORTH from 2004 to 2009 and author of many works and articles, Achim Menges founded and directs the Institute of Computational Design at the University of Stuttgart. He teaches at Harvard University and at the Architectural Association, within the Emergent Technologies and Design Graduate Program that he directed from 2002 to 2009. He has won several prizes (International Design Award 2011; ACADIA Award for Emerging Digital Practice 2007; FEIDAD Design Merit Award 2003).

Minimaforms
(Theodore and Stephen Spyropoulos)

Created in London in 2002 by Theodore and Stephen Spyropoulos, the Minimaforms agency develops an experimental practice of architecture in close relation with the new forms of communication. Its projects involve object design, the creation of spatial environments or structures. The architects implement interactive and evolutionary processes to attain the creation of atmospheres modifying our perceptual consciousness of space. Architect of Greek and American nationality, Theodore Spyropoulos is currently head of research at the Architectural Association of London where he himself studied. He pursued his training at the Bartlett School of Architecture and at the New Jersey Institute of Technology, before working in the Peter Eisenman and Zaha Hadid Architects agencies.

Plasma Studio
(Eva Castro, Holger Kehne et Ulla Hell)

Right from the start in 1999, the architects Eva Castro and Holger Kehne have explored strategies for geometric distortions of material, first of all in numerous housing projects and shops (between 1999 and 2004) and installations on a scale of 1:1. These give body to a strongly identifiable vocabulary encompassing folds, double curvatures, grooves and facets, which characterise their entire production. More widely, Plasma develops complex relational systems, capable of generating new social practices. Working internationally, the agency expanded into Italy and China, where it carried out the urban and landscape project Flowing Gardens (Xi’an, 2011). Plasma was notably winner of the Young Architect of the Year Award (2002) and Wallpaper Design Award (2011) and features amongst the ‘Europe 40 under 40’ (2009).

Ruy Klein (David Ruy and Karel Klein)

The Ruy Klein agency is characterized by a cultural practice, situated at the junction of architecture, life sciences and technology. These architects examine the overlapping of the natural and artificial orders in view of generating an ornamental complexity which resonates with living phenomena, thus Knot Garden (2007) and the private residence Switchback (2007). The Klex (2008) series of projects and the Biaxial Bouquet (2007) installation mark their research with a contemporary form of the ‘sublime,’ founded on mathematical investigative and experimentation work with manufacturing processes. Widely exhibited and published, research by Ruy Klein has notably been distinguished by the Emerging Voices Award (2011).
Jenny Sabin

Jenny Sabin is interested in the relationships between architecture, mathematics and the sciences, in particular biology. She has an active academic career and carries out experimental work within her own agency Jenny Sabin LLC (founded in 2005) and several multidisciplinary research groups, like LabStudio (founded in 2006 with Peter Lloyd Jones) and the Non Linear Systems Organization (2005 - 2011). Jenny Sabin explores strategies for the handling of material, from nano-sopic to macroscopic, based on discrete systems unique to cellular behaviour, which find direct applications in the field of construction. A visual artist by training, she uses the same procedures to produce pavilions (The Greenhouse and Cabinet of Future Fossils, 2011) and installations implementing complex assemblies, notably weaving. Widely exhibited and published, Sabin’s work notably won the Graham Foundation Award (2009) and the Pew Fellowship in the Arts (2010).

soma (Martin Oberascher, Stefan Rutzinger, Kristina Schineffer and Günther Weber)

The Austrian agency soma, founded in 2007, is characterised by an ability to combine conceptual research, experimentation and practice. The development of complex geometries, from simulation procedures, takes on a resolutely experimental approach to construction. Thus, the ‘viscous’ structure of the new foyer at the Academy of Salzburg (delivered in 2012) required the implementation of constructive and innovative solutions, tested on a 1:1 scale. The architecture of the Thematic Pavilion at EXPO 2012 Yeosu (delivered in 2012) and the Temporary Art Pavilion in Salzburg (delivered in 2011) use for their part digital as well as analogue means to generate new perceptual experiences. soma has been awarded in international competitions and its work has been presented notably at the Venice Biennale in 2010.

servo (Marcelyn Gow and Ulrika Karlsson)

A collaborative platform between Los Angeles (Marcelyn Gow) and Stockholm (Ulrika Karlsson), servo, whose name refers to the servo-motor of the cybernetic theory, considers architecture a place for the transposition of information and energy between different systems. In this framework, their projects are proposed like spatial interfaces between physical and virtual flows circulating on a local and global scale. New information technology is convened to promote the artificial development of a new ecology in which organic and synthetic materials interact. Their projects have been exhibited internationally (Venice Biennale, Centre Pompidou, SFMoMA, MAK Center for Art and Architecture, Seville Biennale). In 2008 a monograph was published devoted to the work of the agency with the title Networks and Environments.

SJT (Skylar Tibbits)

Architect and IT engineer, since 2008 Skylar Tibbits has carried out multidisciplinary work associating architecture, information technology, sciences and robotic fabrication at MIT. He develops on the scale of the construction principals of self-assembly, borrowed from molecular functioning. This research takes the form of modular prototypes, like Decibot (2009) and Logic Matter (2010), certain of which evolve structurally under the impact of movement (Self-Assembly Line, 2012). Across his collaborations with THEVERYMANY™ (2008–2010) and the design agency Point b, Tibbits has forged a mastery of the parametric systems that he notably uses in the installation VoltaDom (2011). Teacher, speaker (TED 2012, ACADIA 2011) Tibbits has seen his work widely published and exhibited. In 2007, he was curator with Marc Fornes of Scriptedbypurpose, an exhibition about the use of the script in architecture.
SPAN
(Matias del Campo and Sandra Manninger)

The SPAN agency is interested in the simulation of biological behaviour. Their projects reconcile generative processes* and a sensitive approach to form. Graduates from the Universität für angewandte Kunst of Vienna, Matias del Campo and Sandra Manninger founded SPAN in 2003 in Vienna. They stood out on the international scene during the Shanghai Expo 2010 with their achievement of the Austrian pavilion and benefitted from their first personal exhibition in 2011 at the MAK in Vienna. Del Campo and Manninger teach at the Institute of Architecture of Dessau and ESARQ, Universitat Internacional of Catalunya. Matias Del Campo has furthermore been curator of the South American section of the Beijing Biennale of Architecture in 2008 and 2010.

Supermanoeuvre
(Dave Pigram, Iain Maxwell et Chris Duffield)

The Anglo-Australian agency Supermanoeuvre conceives projects which harness the potential of robotic fabrication. From processes of self-organisation of matter, the architects produce light structures made of various materials, like metal (Venice Architecture Biennale, 2012) or concrete (Pre:Vault, 2011), the complex principals of assembly are implemented by robots. They have thus produced the first fully manufactured polystyrene tower (Periscope Tower, 2010). Teaching is an integral part of Supermanoeuvre’s practice: Iain Maxwell and Dave Pigram have taught at the Architectural Association (London) as well as at the RMIT (Melbourne). The agency has been awarded a number of prizes, including the Young Architects Prize (2010) and the Powerhouse Museum’s International Lace Award (2010-11). It was chosen to represent Australia at the Beijing Architecture Biennale (2008 and 2010) and in Venice (2012).

Wendy Teo

A graduate of the Bartlett School of Architecture, UCL (London) in 2011, the Taiwanese architect Wendy Teo conducts a professional activity within the international agency Foster and Partners and her own practice which blends architecture and plastic experimentation. Her award-winning project, Reforming TaiPei Main Station (2011), illustrates her conception of architecture as a performative organism. At the junction of technological innovation and Asian philosophy, architecture as ‘infrastructural landscape’ integrates the flows of energy and waste in its materiality and aesthetics. Recourse to the ephemeral qualities of landscape is also at the heart of the Floral Pavilion, installation produced at the MEDS Workshop 2012, and selected for the Anonymous.D spiritual space 2012.

Daniel Widrig

Artist, architect and designer, Daniel Widrig designs objects with organic forms and asymmetrical proportions. His generative creations* are the fruit of 3D modelling. With Brazilí (2010), he succeeded in creating a wooden chair with amazing fluidity thanks to digital assembly. After attaining his degree in 2006 in London, Daniel Widrig was part of the team at Zaha Hadid Architects for several years. In 2009, he established his own studio and won several prizes like the FEIDAD Merit Award, the Swiss Arts Award, the Autodesk Maya Masters Award and the Prix de Rome. Designs by Daniel Widrig have been published and exhibited internationally, notably at the Walter Gropius Bau in Berlin and at the Victoria and Albert Museum in London. He currently teaches at the Bartlett School of Architecture, UCL, London.
X_TU Architects

Founded by Nicolas Demazières and Anouk Legendre in 2000, winner of several prizes, including the NAJA 2001, the Paris-based X-TU agency is known for its many works which include the Forum des Images (Paris, 2011) and the Museum of Prehistory at Jeongok (Korea, 2011), as well as for winning competitions such as the Musée du vin de Bordeaux (2011) and the Musée des civilisations de Saint-Paul (La Réunion, 2007). Their visual research is underpinned by a line of thinking about the energy-related performances of construction, fuelled by an interest in biotechnologies and the sciences of the living world. The agency has been developing experimental projects (Tour Bio2, 2007) and working on patents involving the incorporation of the culture of microalgae in buildings, a project that it is pursuing with the creation of the SymBio2 research platform, set up in 2011.

Xuberance (Steven Ma)

An architect graduating from SCI-Arc (California 2008) with a project awarded by the AIA Henry Adams Medal and the Best Graduated Thesis Award, Steven Ma established his eponymous studio in 2010. In parallel to the experimental work that he conducts, he works within the Viennese agency Coop Himmelb(l)au. The architect shows, through projects like Liantang/Heung Wai Boundary Control Point (2011) and the Taiwan Tower (honorable mention in competition, 2010), a form of virtuosity in the use of digital tools, supporting meta-ecology with Baroque aesthetics. Steven Ma has taught and directed workshops, notably at the Bartlett School of Architecture (London) and at the Vienna Institute of Architecture, where he is currently preparing his doctorate.

Designers et styliste

CMMNWLT (Zoé Coombes and David Boira)

Founded in New York in 2005 by Zoé Coombes and David Boira, Cmmnwlth is a design, creation of furniture and art studio. The pair questions the notion of the sublime and a sensory experience is at the heart of their approach. They produce forms combining the use of technologically advanced production tools with traditional manufacturing processes. Graduating from the Columbia Architecture School in 2005, they received the Honor Award for Excellence in Design. The agency has since received several commissions from various public institutions like the Museum of Modern Art (MoMA) and private businesses like Issey Miyake or Warp Records, and are currently working for the American design brand MatterMade.

Iris van Herpen

The Dutch fashion designer Iris van Herpen is inspired by living things to envisage architectural creations. Her works are shaped in innovative materials (polyamide, Rhodoid, Magiflex, etc.) and result from an experimental approach to design, where artisan virtuosity goes hand in hand with the artificial intelligence of digital technology. For her collections, Iris van Herpen favours interdisciplinary research and collaborations with artists and scientists (Bart Hess, Isaie Bloch, Daniel Widrig, Neri Oxman, etc.). A graduate of the ArtEZ Hogeschool voor de kunsten in Arnhem in 2006, she learnt the ropes with Alexander McQueen in London before presenting her first haute couture collection, Fragile Futurity, during Fashion Week in Amsterdam in 2007. In 2012, her creations were the subject of a touring exhibition at the Groninger Museum.
Joris Laarman Lab

After studying Fine Arts as well as at the Design Academy of Eindhoven, Joris Laarman graduated in 2003 with the Heatwave radiator project in baroque style making his debut at the Milan Furniture Fair. Laarman thus broke with minimalist and conceptual aspects. In 2004, he created the Joris Laarman Lab, which acquired international notoriety. Since, his creations have become part of the permanent collections of the greatest museums: MoMA; Centre Pompidou; Amsterdam Rijksmuseum. His creations are inspired by scientific research like the Bone chair (2006) that builds on the work of Claus Matthek, who studied the structural principals of the development of trees and bones.

Artistes

Federico Diaz

Inspired by mathematical sciences and biology, works by the Prague artist Federico Diaz combine the generation of forms from computer languages with a work on space. The origins of his creative processes are in science thanks to the computer, leading to multimedia installations, sculptures in situ which materialise physical or biological phenomena. His works have been exhibited worldwide (Algorithmic Revolution, ZKM Centre for Art and Media, Karlsruhe, 2004; Ars Electronica, Linz, 2005; MASS MoCA, 2010; MoMA PS1, New York, 2008; Venice Biennale, 2011).

Perry Hall

Painter, composer and musician, Perry Hall excels through a multidisciplinary practice. Perry Hall uses digital techniques but favours paint. He explores ‘material intelligence.’ Static or moving, his works capture the processes generated in material in real time through all sorts of stimulation: sound vibrations; movement; variations in temperature; etc. Perry Hall produces stimulating imagery, which seems to navigate between the infinitely small and macro, like the filmed series Livepaintings. His work has been notably exhibited in New York, at the Artists Space and at the Cooper Hewitt National Design Museum, as well as in Florence as part of the Image/Architettura Festival.

Casey Reas

The American artist Casey Reas explores the potential of computer programming and algorithmic processes in the field of art. His works are produced thanks to form and electronic system generation software developed by the artist himself, like the open source programming language Processing that he designed in 2001 in collaboration with Ben Fry. Casey Reas explores links between advanced, natural or artificial systems, and shows how organic or geometrical shapes can emerge from automated processes. A graduate of the School of Design, Architecture, Art, and Planning of the University of Cincinnati, Casey Reas pursued his training within the MediaLab at the Massachusetts Institute of Technology (MIT) from 1999 to 2001. He currently teaches at the University of Los Angeles and his works have been presented in numerous exhibitions (MoMA PS1, New York; Victoria and Albert Museum, London; Witney Museum of American Art; ZKM Centre for Art and Media, Karlsruhe; Ars Electronica, Linz, Transmediale, Berlin; Centre Pompidou, Paris).

Marius Watz

Since the start of the 2000s, the Norwegian artist Marius Watz has taken part in the development of generative art through the use of digital design software. Marked by visual abstraction, his works – digital objects, physical installations or graphic works – result from the generation of behaviour from parametric variables within software and semi-automated systems. His installations are regularly exhibited (Victoria & Albert Museum, London; Todaysart, The Hague; ITAU Cultural, Sao Paolo). Watz works between New York and Oslo. He also intervenes at the Interaction Design laboratory at the Oslo School of Architecture and Design. In 2005 he founded Generator.x, a platform for events organisation around computational design and generative art.
To go further*

**Algorithm:**
An algorithm is a logical sequence of given operations which enables a problem presented mathematically to be solved. Some families of algorithms like genetic algorithms are inspired by natural processes (hybridizations, mutations, selection, etc) to develop new optimization models.

**Biomimetics:**
Biomimetics is an approach which seeks to apply the principles which govern the appearance, organisation and evolution of natural forms to human creation. In the wake of Gaudi, certain architects seek to adapt these laws followed by the natural sciences to their own projects, to implement new architectures in harmony with their environment, the extremely varied forms of which respond better to their function.

**Cellular automata:**
Programme of behavioural simulation from a collection of artificially defined entities called ‘cells.’ These may appear in different states and evolve over time according to the generations of cells which surround them. Cellular automata are used in everyday life, for example for forest fire simulations, cellular automata notably enable to know how the fire will spread. Related to the world of creation, cellular automata is a tool for the generation of progressive forms which respond to a certain complexity.

**Computing:**
Often associated with software, the term computing means calculation. Computational architecture refers to the use of the computer as a tool for the mathematical generation of form rather than as a simple representation tool.

**Low-tech:**
May be translated literally by poor technology, in contrast to high-tech, high technology. This term refers to a simple, economical use of tools, machines and contemporary techniques.

**Parametric modelling:**
Technique for the description and modification of the geometry of a volume based on parameters. The form of the object develops according to the modifications of the variable constraints.

**Morphogenesis:**
Laws governing the development of forms. From the natural sciences, where it applies to the growth of organisms, the concept is also used in architecture.

**Non standard production:**
In the field of mathematics, non-standard analysis is based on the exploration of the infinitely small. It enables extremely proficient concepts of continuity and variation, notably in the process of the generation of forms. In the field of production, the non standard questions the industrial manufacture of standard objects, opening up to the mass production of unique objects.

**Script:**
Suite of computer operations written in a specific language, known as ‘script language,’ which enables one or several actions to be generated.

**Generative systems:**
Generative systems are computational systems which use generative grammar, or simple ground rules defining objects, the conduct of these elements and their way of visualisation. The interaction between the components, or objects, according to the rules defined produces a complexity that only the computer is able to transmit.

**Multi-agent system:**
A system, in which a combination of agents, that is of elements (a process, a robot, a human being, etc.) with relative autonomy, operate collaboratively to achieve a task that none of them could achieve alone. The results obtained are the fruit of the interaction between the elements. Inspired in part by natural phenomena like anthills, the principle has been extended to the field of artificial intelligence.
Archipel Partners

**ORLÉANS**

**Cultural institutions / Museums / Art Centers / Cultural Associations**
- Astrolabe
- Amis des Musées d’Orléans
- Carmes Village
- Centre chorégraphique National d’Orléans
- Centre Dramatique National d’Orléans / Loiret / Centre
- Centresciences
- Cinéma les Carmes
- Conseil Régional Ordre des Architectes du Centre, Orléans
- Éditions HYX
- Labomédia
- Librairie Chapitre
- Librairie Les Temps Modernes
- Maison de l’Architecture du Centre
- Médiathèque d’Orléans
- Musée des Beaux-Arts
- Muséum d’Orléans
- Scène Nationale

**Schools / Universities / Educational organizations**
- ESAD Orléans
- Polytech’
- Université d’Orléans
- Université du Temps Libre - UTL - Université d’Orléans

**Professional organisations**
- Agence d’Urbanisme de l’Agglomération Orléanaise
- Gare d’Orléans

**Hospital centers**
- CHD Fleury-les-Aubrais

**RÉGION CENTRE**

**Cultural institutions / Museums / Art Centers / Cultural Associations**
- Les Amis du Frac Centre
- Association des personnels scientifiques des musées de la région Centre
- Atelier Calder, Saché
- CAUE 28, Chartres
- CICLIC, Château-Renault
- Domaine National de Chambord
- Musée de l’Hospice Saint-Roch, Issoudun
- Pôle des Arts Urbains, Tours
- Transpalette, Bourges

**Schools / Universities / Educational organizations**
- ENSA Bourges
- EMBA Châteauroux, Galerie du Collège Marcel Duchamp
- Esba TALM, site de Tours
- Université François Rabelais, Tours

**Cultural services**
- Ville d’Amilly
- Ville d’Aubigny

**FRANCE**

**Cultural institutions / Museums / Art Centers / Cultural Associations**
- Apollonia, échanges artistiques européens, Strasbourg
- Centre International d’Art et du Paysage, Île de Vassivière
- Centre National des Arts Plastiques
- Centre Pompidou, MNAM-CCI, Paris
- Cité de l’Architecture & du Patrimoine, Paris
- La Panacée, Centre d’art contemporain, Montpellier
- Les Abattoirs, Musée d’art moderne et contemporain, Toulouse
- Pavillon de l’Arsenal, Paris
- Parc Saint-Léger
- Réseau des Maisons de l’Architecture, Paris

**Schools / Universities / Educational organizations**
- École d’Architecture Paris-Malaquais

**INTERNATIONAL**

**Schools / Universities / Educational organizations**
- University College of London, Bartlett School
- IAAC-Institute for Advanced Architecture of Catalonia, Barcelone.
Selection of visuals for the press

LES TURBULENCES - FRAC CENTRE

1. Les Turbulences - Frac Centre
   © Jakob + MacFarlane. Photo: Nicolas Borel

2. Les Turbulences - Frac Centre
   © Jakob + MacFarlane. Photo: Nicolas Borel

3. Les Turbulences - Frac Centre
   © Jakob + MacFarlane. Photo: Nicolas Borel

4. Les Turbulences - Frac Centre
   © Jakob + MacFarlane. Photo: Nicolas Borel

5. Les Turbulences - Frac Centre
   © Jakob + MacFarlane. Photo: Nicolas Borel

6. Les Turbulences - Frac Centre
   © Jakob + MacFarlane. Photo: Nicolas Borel

7. Les Turbulences - Frac Centre
   © Jakob + MacFarlane. Photo: Nicolas Borel

8. Les Turbulences - Frac Centre
   © Jakob + MacFarlane. Photo: Nicolas Borel

9. Les Turbulences - Frac Centre
   © Jakob + MacFarlane. Photo: Nicolas Borel

10. La faille, agence ruedurepos
    © Colin Sayetta

APPENDICES
GALERIE PERMANENTE

11. Vue de l'exposition « Architectures expérimentales »
Galerie permanente
Photographe François Lauginie

12. Vue de l'exposition « Architectures expérimentales »
Galerie permanente
Photographe François Lauginie

Collection Frac Centre, Orléans. Photo : Philippe Magnon

14. Madelon Vriesendrop, Flagrant délit, 1975
Collection Frac Centre, Orléans. Photo : Olivier Martin-Gambier

15. Peter Cook (Archigram), Instant City Visits Bournemouth, 1968
Collection Frac Centre, Orléans. Photo : Philippe Magnon

Collection Frac Centre, Orléans. Photo: Philippe Magnon

17. SITE (James Wines), Highrise of Homes, 1981
Collection Frac Centre, Orléans. Photo: Philippe Magnon

18. Architecture Principe (Claude Parent, Paul Virilio)
Les Turbosites I, 1965
Collection Frac Centre, Orléans. Photo: François Lauginie
Opening hours (from 14 September 2013)
From Wednesday to Sunday: 12 pm - 7 pm
Late night opening until 8 pm every first Thursday of the month
Closed on 25 December and 1st January

Admission to exhibitions
• Full price: €4
• Reduced price: €2
• Annual pass: €10
Admission free on the first Sunday of the month
Visioguides (French-English): €2

Admission conditions
Reduced rates (on presentation of proof of identity):
• Students under the age of 26
• Persons aged 65 and over
• Holders of a special large family card
• Groups of 10 persons and more

Admission free (on presentation of proof of identity):
• Under 18
• School groups and accompanying adults
• Secondary school students and apprentices in the Centre Region
• Students in the Centre Region
• Persons on basic income support (job seekers, persons receiving the RSA, persons on basic pensions), holders of a disability card, and handicapped persons, with their accompanying adult.
• Members of the IOM, Press card, Maison des artistes and AGESSA cards, teachers at Art and Architectural Schools, tourism professionals
• Registered partners, the Friends of the Frac Centre, Patrons and Sponsors.

Prices to guided visits
Adult group visits (10 to 20 people) – by booking:
• Wednesday to Friday: €100
• Saturday and Sunday: €125
The Week-end Rendez-vous (booking recommended):
• Saturday and Sunday at 4 pm: €8 per person
Flash visits (30 min):
• Friday at 1 pm: €5 per person

Accessibility
The Turbulences - Frac Centre are accessible for persons with reduced mobility.

Services
Open during opening hours
for The Turbulences - Frac Centre
• Refreshment area
• Bookshop
Unlimited wifi access is available inside The Turbulences-Frac Centre buildings.
# PARTNERS

## The Turbulences – FRAC Centre

The Turbulences – FRAC Centre is property of the Centre Region and benefited from European Union’s support, within the framework of ERDF, the French State and the City of Orléans.

### Contracting authority

![Région Centre](image)

![Europe](image)

![Mairie d’Orléans](image)

## The FRAC Centre

### Public partners

![Région Centre](image)

![Mairie d’Orléans](image)

### Institutionnal partners

- **PLATFORM**
  - Recherches des Fonds régionaux d’art contemporain

### Private partners

- **Founding partner**
  - ERCO

- **Main partner**
  - SIXANTE COURONNE

- **Partner**
  - Les Arts de FRAC Centre

## ArchiLab

### Public partners

![Région Centre](image)

![Mairie d’Orléans](image)

### Institutionnal partners

- **nma**
- **Maison des arts de la région Centre**
- **La Scène nationale d’Orléans**
- **creative industries fund NL**
- **prochelvetia**

## Media partners

- **centre**
- **TV**
- **bip**
- **le républicain du centre**
- **le berry républicain**
- **le réco républicain**
- **la Nouvelle République**
- **Gares & Connexions**
- **SNCF**
- **Le Monde**
President
François BONNEAU

Director
Marie-Ange BRAYER

Communication
Amélie Evrard
Tél. 02 38 21 79 53
amelie.evrard@frac-centre.fr

National and international press
Heymann, Renoult Associées
Sarah Heymann, Raphaëlie Gruet, Eleonora Alzetta
Tel. 01 44 61 76 76
r.gruet@heymann-renoult.com
e.alzetta@heymann-renoult.com

Regional press
Kim Hamisultane
Tel. 02 38 70 31 40
Kim.hamisultane@regioncentre.fr
**Focus**

Muséum des sciences naturelles, Orléans  
**Nature et architecture, collection du Frac Centre**  
3 mai – 13 octobre 2013  
James Guitet ; Jakob + MacFarlane ; R&Sie(n) (François Roche) ; Guy Rottier ; Ionel Schein

Le Muséum expose des maquettes de la collection du Frac Centre au sein même de ses collections permanentes sur tous les niveaux du parcours. Les projets d’architecture, inspirés de processus naturels et vitaux, entrent en résonance avec le monde des invertébrés (insectes), des vertébrés (poissons, reptiles, mammifères) ainsi qu’avec les serres du Muséum.

---

**Médiathèque, Orléans**  
**Architectures de Papier : l’aventure radicale**  
Collection du Frac Centre  
5 septembre – 5 octobre 2013

L’exposition présentera une sélection d’ouvrages et de revues, ayant marqué l’Architecture Radicale des années 1960-1970, par leur dimension avant-gardiste, tant du point de vue critique que graphique.

Médiathèque, Montoire-sur-le-Loir

**Louidgi Beltrame**

10 – 28 septembre 2013

Le Frac Centre invente de nouvelles modalités de découverte et de sensibilisation à l’art et à l’architecture contemporaines en région à travers la mise en place de lieux relais conventionnés, dont la Médiathèque de Montoire-sur-le-Loir.

Le 1% artistique de cette nouvelle architecture a été réalisé par Louidgi Beltrame, artiste de la collection du Frac Centre. Plusieurs expositions autour du travail de l’artiste seront présentées à la Médiathèque, dont *Gunkanjima* (2010).

---

Centre Pompidou, Paris

**Parole à l’architecture, Collectionner l’utopie**

10 octobre 2013


La projection sera suivie d’une table ronde avec Bernard Tschumi, Gian Piero Frassinelli, Frédéric Migayrou et Marie-Ange Brayer (sous réserve).
88 rue du Colombier 45000 Orléans
(entrée boulevard Rocheplatte)
Tel. +33 (0)2 38 62 52 00
contact@frac-centre.fr
www.frac-centre.fr

President
François BONNEAU

Director
Marie-Ange BRAYER

Communication
Amélie Evrard
Tél. 02 38 21 79 53
amelie.evrard@frac-centre.fr

National and international press
Heymann, Renoult Associées
Sarah Heymann, Raphaëlie Gruet, Eleonora Alzetta
Tel. 01 44 61 76 76
r.gruet@heymann-renoult.com
e.alzetta@heymann-renoult.com

Regional press
Kim Hamisultane
Tel. 02 38 70 31 40
Kim.hamisultane@regioncentre.fr