PRESS KIT

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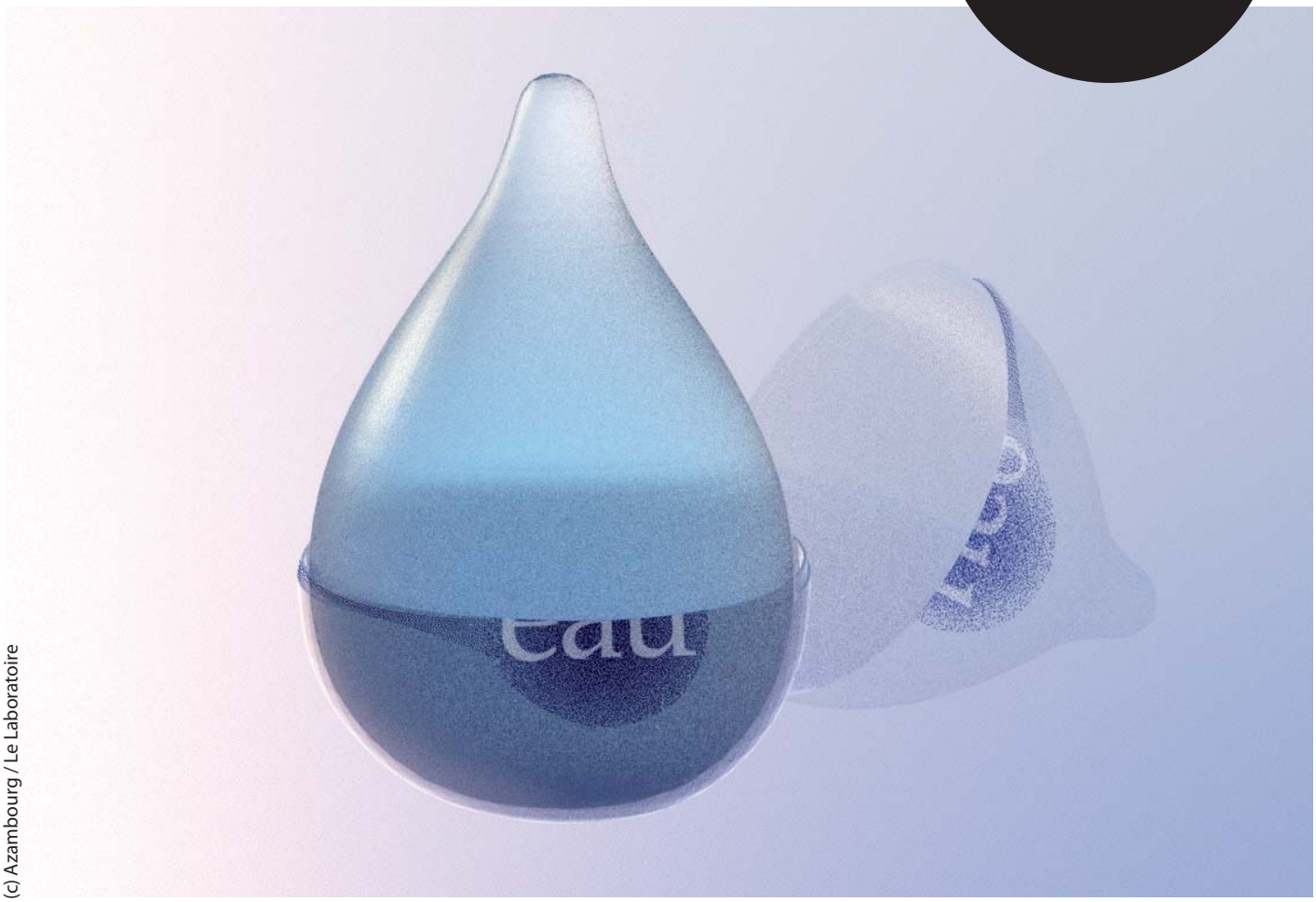
Cellular Design

François Azambourg & Donald Ingber

September 24, 2010 - January 30, 2011

Experience 10



Le Laboratoire

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Contents

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Press Release

From 24 September 2010 to 30 January 2011, Le Laboratoire is running an original experimental exhibition on the theme of water, and in particular, the transport of water; the exhibition looks at how this could be made environmentally reliable and more natural.

To probe these questions, French designer François Azambourg and American scientist Donald Ingber brought together a panel of researchers, with the assignment of coming up with a prototype container as close to nature as possible.

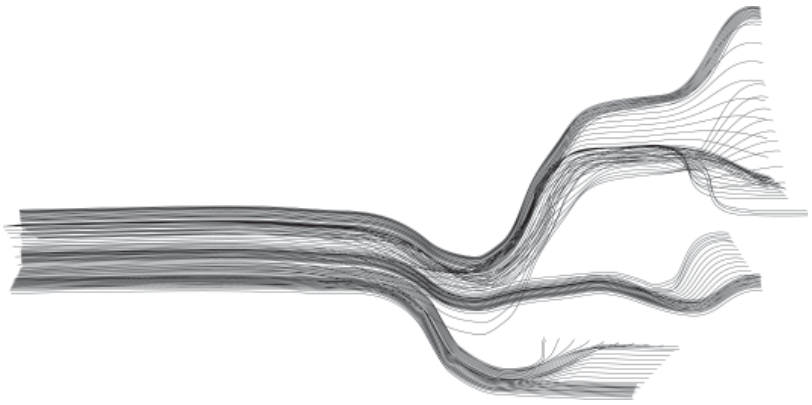
The panel looked into the feasibility of transporting water via a system inspired by the biological cell, based on a suggestion made in the course of a number of lectures in Harvard University during the fall of 2008 by Professor David Edwards, the founder of Le Laboratoire. Originally perceived as rather utopian, it is now considered that this could actually be done by harnessing the expertise of experienced specialists.

François Azambourg has since been developing this idea through new forms of cell design, and has been preparing the set for Le Laboratoire exhibition.

As part of Le Laboratoire's participative approach, he invited ENSCI students to actively participate in the project.

The experiment is being developed in close collaboration with the scientist Donald Ingber, a cellular biochemistry specialist, and David Edwards, with input from the French researchers Raphaël Haumont and Sidi Bencharif, specialized in the physicochemical properties of materials.

Entitled **Cellular Design**, the exhibition will go through the various project steps, from initial tests (successes and failures alike) to new forms of bottles incorporating a cellular and ephemeral design.



(c) Azambourg - Le Laboratoire

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SCENOGRAPHY

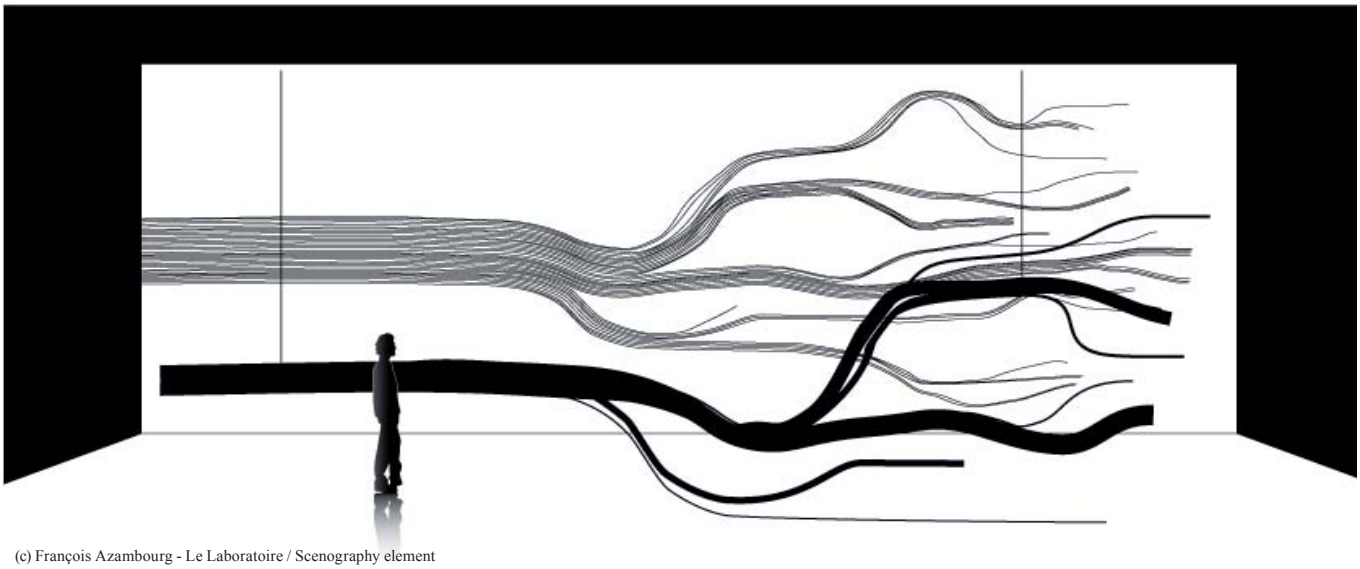
The Cellular Design exhibition will detail all the creative processes involved in the experiment.
Reproducing the daily work environment of a research laboratory, the project has been designed with complete transparency in mind: from tests to successes, from prototypes to end products, including specimens and failures.

François Azambourg has opted to remain as close as possible to the scientific truth. His staging of the experiment, at the frontiers of eco-design, meshes with the processes of nature itself.

The original inspiration came in the form of a seaweed which gave the designer the idea of creating a tree-like sculpture depicting the various research paths. This illustrates the multiple arcs of initial reflection, some of which have been brought to fruition, with others yet to be thoroughly explored.

By depicting the current state of research, Le Laboratoire is suggesting that investigations should be pursued, and highlights the idea that innovation is an ongoing process.

In a nearby room, the new forms of container are on display, suggesting a designed water, transported by new forms closer to nature.
A cellular design incorporating eco-environment and sustainable development.



(c) François Azambourg - Le Laboratoire / Scenography element

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Joint interview between David Edwards, founder of Le Laboratoire, and François Azambourg

The Cellular Design project was spawned by a discussion between David Edwards and his students, who were thinking about the idea of creating a bottle made of a material inspired by the biological cell. Two years later, this ecological design has now come to light at Le Laboratoire. How did you approach the initial premises of the idea?

David Edwards: Actually, the idea my students had was more closely linked to a carrying object inspired by the biological cell, more similar to today's "Pumpkin"*. In December 2009, I began to think that the reality behind the biological cell was all about the indissociability of the container and the contents. On the advice of Caroline Naphegyi, I contacted François, asking if he might be interested in a design project for a bottle featuring that particularity; an ecologically neutral, relatively natural, bottle. He appeared to be intrigued and began exploring the properties of fruit. As a result, our collaboration actually began as of January 2010.

François Azambourg: The project bring two axes into play: the key issue of water and that of its transportation. It opens up some fascinating new paths! Especially when we consider the current problems posed by plastic bottles and issues of non-renewable energies. It's no secret any more: pollution is difficult to control these days. Considering the aspects of the project in its relationship to transportation and ecology, we were led to conduct an experiment that might allow us to invent a new way of seeing the container. We are faced with a very topical subject matter.

The special feature of the exhibition is that it shows all the stages of the project; as with a documentary, visitors can immerse themselves in the research and developments that inhabited your work; the work of the designers and the scientists. What are you seeking to demonstrate by unveiling the key moments of your work? And by inviting visitors to discover the very processes and secrets of Le Laboratoire?

D.E.: It was all François' idea. I liked it very much. At Le Laboratoire, we're always fascinated by opportunity and motivated by the challenge of inviting the public to enter the creation process; it's what Le Laboratoire is all about, as both a research and exhibition venue.

F.A.: The link with the very contents of Le Laboratoire is not an incidental one. We enter it as we would a place of research. By showing the workings of the experiment, we clearly express the desire to clarify fairly complex statements about research; we clarify a certain thought.The exhibition presents the beginnings of a discussion; the constraints regarding its presentation in September will bring about a halt in a temporal segment; the conversation itself will continue. In actual fact, we are presenting a work in progress; because things do not end here and the scenography suggests the continuity of that work.

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Failure is a fundamental part of the scientific tests inherent in any research. Is it safe to say that, if not a failure, then it might be full of lessons and a promise of hope?
The scenography will reveal those failures; what do you actually want to show?

D.E.: The key moments in every creation process are those moments when we are faced with astonishing results; we learn, we reflect. If viewed from the outside, we might see it as a failure. In fact, we envisage a certain path of development and then we realise that path doesn't exist, or will never lead anywhere. We won't discover anything if our theories are always proved right. Failure, in that sense, is at the heart of discovery.

F.A.: They're not failures, but experiments in experience, which ultimately turns out to be successful. In research, you're faced with new situations, which always make you want to go further.

How did your collaboration go? Do designers sometimes become thwarted in their efforts due to scientific constraints? Or would you say that these have contributed towards the development of an innovative design?

D.E.: Yes, there were major scientific and technological constraints, and I'd say that, right from the start, scientific research and design were inextricably linked. François wanted to understand everything, and integrate the reality of nature into his design.

F.A.: Constraints are inevitable. The scenography also tends to prove that. The story behind the objects is the confrontation between dream and reality. Design brings the object into the dream world, not the real one. And the unresolved part creates a space in which we will build new projects.

The ecological and environmental situation is a fundamental aspect of the Cellular Design project. What are the issues facing ecological design today?

D.E.: I work at Harvard in an engineering institute inspired by biology and in September I head up a session in Cambridge UK for an international conference sponsored by science academics in the US and in Europe, also entitled "Engineering inspired by biology"… The fact is that nature is now the biggest source of inspiration in design, and indeed engineering, an encouraging phenomenon given the fragile ecological state of the planet.

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F.A.: Project economics is something I have pursued almost from scratch. It has accompanied me for a long time. The real question is: what can the Earth give us? Because dogmas about ecology are quite frightening. We should, in actual fact, question the individual's dissociation from Nature. How many of us, nowadays, eat according to the seasons? It's important for us to get back to basics, and in touch with our farming roots. There's still a lot of work to be done in that sense.

After the exhibition, do you intend to continue your research in the field of cellular design? What future do you see for the new bottle?

D.E.: Yes, of course, this is just the beginning! I can envisage a new technology or several new technologies being marketed over the coming years.

F.A.: Insofar as it's a work in progress, yes, the experiment is still going on with a team of experts and scientists. The trouble with the final shape of the bottle is finding exactly the right one to match the established marketing codes for a bottle, but with an off-beat design that shows that something's happening.

*The Pumpkin is an innovative bag for carrying water based on a design inspired by the biological cell. Its prototype is currently on show at Le LaboShop.

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Conversation between CAroline Naphegyi, artistic director of Le Laboratoire, and François Azambourg

Caroline Naphegyi: When David asked me to think of a designer capable of coming up with a 'bottle' wherein the container might be composed of its contents, and inspired by a biological cell, I immediately thought of you. Probably because the primary task was to lend substance to an object using a given material. What about you, what first struck you on hearing David's initial proposal?

François Azambourg: It seemed to me perfectly natural and obvious to answer your invitation. The issues raised by the project are very topical. How to resolve the issue of the plastic packaging as a water container and the problem of its recycling? There's still a lot of ground to be dug over there. The really engaging idea is that biology can help towards finding solutions to these fundamental problems.

Caroline Naphegyi: Philippe Louguet* describes you as "someone who re-enchants matter by interpreting these logics through an experimental approach". The material in question, the biological cell, was relatively "immaterial", and therefore not particularly manipulable compared to other materials with which you could have worked. How would you describe the path you take in your approach, the stages involved in your research as a designer?

François Azambourg: "Immaterial" matter is not part of any contradictory approach. I have always researched and worked on soft matter; matter which belongs to a flexible, supple and even unfinished world. I'm interested by the idea of an object with blurred contours; I see it in terms of performance, because matter is bounded by limits. The idea of pushing matter to its limits to achieve the maximum result is very exciting. And, in fact, that's something we show in our scenography by reducing it to its simplest expression.

Caroline Naphegyi: As early as the first meetings, you suggested the idea was to observe nature (grapes, mandarin segments, a bird or chicken's egg, etc…) before you even designed an object. Your approach, primarily based on empirical observation, is very similar to that of a scientist. Was this scientific collaboration a first experiment for you? Does this experience open up the field for experimentation in the future?

François Azambourg: I have a scientific mind by nature; my studies initially focused on technology. So, for me, it's perfectly natural to work in a harmonious partnership with scientists. It's a very balancing collaboration. Together, we find an expression for what we want to do. In the Cellular Design exhibition, we engage the premises of an experiment. We announce the first stages. The project is underway. In actual fact, there is one universe open to us: that of biology and its use in design and industry.

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Caroline Naphegyi: You also joined forces with the scientific team proposed by Le Laboratoire, a team of young designers at the ENSCI, where you teach. How do you approach collective research?

François Azambourg: Insofar as the experiment is being conducted at Le Laboratoire, I felt it only natural to operate like a real laboratory. Something that genuinely does involve collective research with scientists, designers and students. I therefore turned to my students at ENSCI to ensure that all entities comprising the whole could cohese in the scientific experiment.

* Art, architecture and design critic, art historian, lecturer, professor and researcher in architecture and design, architect, visual artist.

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Interwiew of Don Ingber by David Edwards

Why are scientists and engineers today so particularly inspired by biology and nature in the kinds of research that they do? Can you give a couple examples from your own research?

Don Ingber: We are now at a time in our history when we can see and feel the limits of our planet's capability to support human expansion. Current approaches to manufacturing, energy production and construction are not sustainable for the long-term because they drain critical natural resources, and we are continually frustrated by medical therapies that incorporate synthetic materials that cause more harm than good because they are 'incompatible'
with our bodies. In contrast, Nature has evolved strategies to build, control, manufacture and generate energy in ways that are friendly both to our environment and to our bodies. In work at the Wyss Institute for Biologically Inspired Engineering at Harvard University that I head, we seek to leverage Nature's design strategies of self organization, adaptation and selection to accelerate evolution of microbes that provide new functions, such as the ability to generate energy or to produce natural protein drugs with high efficiency. We are also building new biodegradable materials for consumer products that have the strength of aluminum but at half the weight, which are assembled much like the way insect cuticles are built and from similar chemical materials. In other studies, we are engineering implantable devices that mimic the embryo's ability to induce organ formation for regenerative medical applications.

When did you get involved in this experiment, why, and where do you think it might lead?

D.I.: I have been studying how Nature builds living cells that exhibit organic properties, such as the ability to change shape, move and grow, for over 30 years. Insights from this work led me to discover the power of self-organizing systems that build hierarchically from smaller parts, and that provide control and novel material properties through their internal architecture. This led me to form a company in the mid-1990's called Molecular Geodesics Inc. that focused on creating of 'biomimetic materials'
that mimic the way living materials are designed at the micro- and nano-scale. But technical capabilities were limited at that time. As a result of recent collaborations between biologists, engineers, physicists, and chemists, we now have the capability to build structures with virtually any form we desire at the nanometer scale, and to build from the bottom up by programming molecules to self assemble in controlled ways. We also have uncovered much more information about how living systems self-organize and adapt to their environment, and why biological materials exhibit their incredible novel properties. As a result, we are moving beyond bioengineering in which engineering principles are applied to solve medical problems; we entering a new phase in which we are applying biological principles to innovate entirely new engineering solutions. This is what we call "Biologically Inspired Engineering".

You have done research in the past with artists and designers. Why? And what came of it?

D.I.: I have always viewed life as a problem of design and architecture - how Nature builds increasingly complex forms, materials and functions from many smaller components. This innate interest in pattern and design led me to take art courses as well as science courses as an undergraduate student at Yale University. By chance, I was introduced to the 'tensegrity' scuptures of Kenneth Snelson and Buckminster Fuller in an art course the same week that that I first learned how to culture living cells in the laboratory.
Both the tensegrity sculpture I saw and the cells I cultured behaved in similar ways- they spread when anchored to a substrate, but leapt upward and rounded when detached. Because they also both contained internal tensed structural frameworks, this led me to first propose, and then to confirm experimentally, that living cells indeed use this form of architecture to control their shapes and functions. This has been confirmed by many other research groups, and as a biodesign principle, tensegrity is now having an impact on fields ranging from nanotechnology and tissue engineering to building construction and space exploration.

What, in your opinion, are the key similarities and differences between the way a scientists thinks and works, and the way an artist or designer thinks and works?

D.I.: Artists and designers create forms and patterns that contain many individual components, but also convey meaning and beauty as a whole. They need to consider the composition of each element, and to establish precise relationships between these components to best communicate their message to the viewer. Scientists seek to uncover how Nature works by analyzing the components that comprise the system, as well as the structural and functional relationships between these components parts. Successful scientists are those who seek to uncover patterns and design principles that govern the form and function of the entire system, and do not get lost in the parts. Thus, design, form, pattern and visualization are important for scientists as artists. Scientists different from artists, however, in that they seek to identify principles that govern our world regardless of who carries out the analysis; hence, they can be similarly discovered by others.
Artist have the freedom to convey more idiosyncratic and personal perspectives, or even to create alternative worlds.

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Biographies

François Azambourg


DR

Award winner of « La Villa Medicis hors les murs » in 2003, of the Grand Prix du Design de Paris 2004, François Azambourg has participated in numerous shows and exhibitions, where his work has been discovered in, Paris, Bordeaux, Roubaix, Monaco, Milan, New York, Beijing, Tokyo…. Since this time, he has created numerous lighting and furniture projects for manufacturers including Ghaadé, Cappellini, Domeau & Pérès, Kréo and Poltrona Frau. As a teacher since 1993, he has shared his unique approach to design in various schools: Esdi, Créapole, Iscom, Boulle, Camondo, ENS Cachan and currently at Ensci-Les Ateliers in Paris. From the very beginning, his work has been totally devoted to the combination of techniques and the true art of applied arts. He is oriented towards simplicity and lightness, pushing himself in the realm of objects to go against common trends. In doing so, in 1985, he won the “Moving” competition organised by the Museum of Decorative Arts in Paris for a paper coffee pot. He later earned his Master’s degree for Applied in Industrial design from ENSAAMA. Without a doubt, another characteristic of his work is his capacity to totally revise the materiality of an object in regards to its function based on basic observation. From 1988 to 1998, Azambourg was totally focused on the saxophone, declaring it to be a crippled instrument, unstable and heavy due to its size, hence the difficulty to produce a standardized sound. He set out to improve its productivity, its energy-efficiency ratio, attempting to be as economical as possible in regards to its load loses. Unlike research done many years ago on the resin body, the option was to lighten the saxophone using the same materials, but seen as a whole. For example, rather than using twisted brass rods, use could be made of lighter, more reliable metal wires, in traction. Collaborating with Selmer and the IRCAM, and sponsored by the Fondation de France in 1988, by the Fondation de la Vocation in 1993 and by the Music and Dance sector of the Minister of Culture from which he received a grant in 1991. However, the risk involved with this work was to remain in the field of invention, which he describes as pathetically obsessive, and to let other goals escape, in this case music, which is the artistic aspect. Distancing himself therefore from this field, his later work, still focussed on lightweight techniques, sought to be more transversal, now looking more specifically at the products of environment. As soon as 1993, his work became more transversal. In 1994, Azambourg won the CTBA competition on “Furniture materials for the future”. In addition, his research was enhanced by the development of new materials for Hermès and Mandarina duck, exploring associations of materials in 1989-1999, which resulted in a patent for wood-foam sandwiches. This research was awarded a VIA Project assistance grant. In 2000, he registered a patent for the “Pack” chair. This auto-constructing chair, also selected as a VIA’s Project assistance grant, exploits the association of 3D textile with the injection of polyurethane foam that challenges the usual practices of distributors by reducing the cost of shipping and reducing storage space: the chair is delivered in the shape of a pack which capitalizes on the polyurethane foam’s ability to expand (10 times is initial volume).

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This approach increases ways in which the chair can be used, since each individual can decide on exactly when he wants to construct the chair. In 2001, VIA selected his inflatable 3D textile lamp for a Project assistance grant, which was also the subject of a patent registration. Azambourg's research has even resulted in an inflatable 3D textile house, which was presented at the NOW show that same year. In 2002, he extended his exploration to fibre optic lights developing a 12cu.m.-piece that was presented at the Designer's Days in Paris. This is the source of a major part of his current work. But because both press and television were concentrating mainly on the experimental nature of his activities, he feared being labelled simply as an inventor. At this time, a specific project, the "Very nice" chair, chosen by VIA in 2002, enabled him to showcase new creative abilities. Based on a childhood memory, scale models made from balsawood and paper, the designer sought to recreate an object that was "pretty yet uncomfortable, but light-weight and red". This approach, seemingly inessential, (the designer admits that, strangely he initially felt guilty for making this chair) is reminiscent of his childhood fascination of insects as being the strangest creature; as sort of "exoticism at our doorstep". Later, for Lille 2004, the European Capital of Culture, Azambourg designed a mobile micro-restaurant, revisiting interior decoration and treating it as a slightly off-scale object. In 2005, VIA gave him a "Carte Blanche". This was his opportunity to delve into research on honeycomb structures and leather-foam sandwiches. He presented a series of honeycomb partitions, a pixelized clock with a honeycombed facade, a silver dish from a lost wax cast modelled from a sheet of wax and confectioned by bees, a light made up of a cloud of laterally emitting optic fibres and autonomous diodes and a leather-foam seat with a metal frame, prototyped by Domeau & Pérès in collaboration with Hermès. The pieces from his Carte Blanche research are now all in production by the following manufacturers: Domeau & Pérès, Ligne Roset, Cappellini, Poltrona Frau. In addition to this production, a monumental, 18-meter light was created for Les Galeries Lafayette in Toulouse. 2005 was also the year of the creation of a line of lightweight bags for Hermès as well as the beginning of research on metal-foam seats, initially commissioned by Kréo. The result: a stool made of 2/10 mm silver, tin welded and injected with polyurethane. Later, the same piece was done in copper in the same thickness. In 2006, this research gave birth to the Bugatti series; a furniture collection of chairs, armchairs and stools in 2/10 mm steel produced by Cappellini using the same technique, but now lacquered in conventional colours of pre-1970 race cars. Currently, François Azambourg continues his research in the fields of lighting and furniture through a widely open exploration of techniques constantly aiming at the fundamental, as can be seen in his work for Japanese firms on recycling paper resulting in an "all paper" house.


Coupe nid d'abeille - Carte blanche VIA 2005 - DR


Chauffeuse et repose-pied Bois-Mousse - 1998 - DR


Pot Douglas - 2008 - DR

More information

www.azambourg.fr

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ENSCI students_Les Ateliers

Flavien Berger is a fourth-year student of the Ecole Nationale Supérieure de Création Industrielle (ENSCI - Advanced Institute for Industrial Design), where he has done a number of projects in the field of visual and sound research. In addition to his design studies, he has solid video skills, with a number of short films already under his belt. He is the eyewitness to the project process, filming and re-transcribing all the steps involved in the creation, from initial chemical research to set design.

Laurent Milon, aged 28, lives and works in Paris. Originally graduating with an Economics master's degree, he then studied design at the ENSCI, where he discovered a passion for physicochemical experimentation. His design approach combines classic industrial processes with natural processes, resulting in objects with highly original technical and formal characteristics.

Baptiste Viala, aged 24, is also enrolled at the ENSCI, where he has focused on exploring materials, and in particular, the properties and forming of materials. His current field of research looks at how to use plastic as a design material.

Charlie Zehnlé, aged 21, is also an ENSCI student. From an initial passion for the graphic arts, he moved on to industrial design, attracted by the prospect of creating bridges between disparate talents and fields, such as art, science and technologies.

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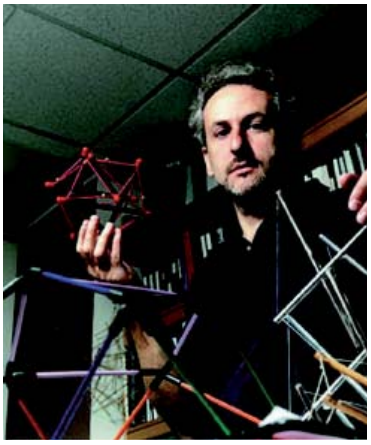
DR

Donald E. Ingber, M.D., Ph.D., has made major contributions to cell and tissue engineering, as well as angiogenesis and cancer research, systems biology, and nanobiotechnology. His research group is interested in how living cells and tissues structure themselves so as to exhibit their incredible organic properties, including their ability to change shape, move, and grow. His team strives to identify design principles that govern the formation and control of living systems, and to use this knowledge to develop novel therapeutics, devices, and robotic systems. By combining approaches from molecular cell biology, chemistry, physics, engineering, computer science, magnetics, and optics, Ingber has helped to develop multiple new experimental nano- and micro-technologies, as well as engineered tissues and cancer therapeutics that have entered human clinical trials. His pioneering work demonstrating that tensegrity architecture is a fundamental principle that governs how living cells and tissues are structured at the nanometer scale has inspired a new generation of cancer researchers, bioengineers, and nanotechnologists. It also has resulted in the discovery of the molecular mechanism by which living cells sense and respond to mechanical forces.

His contributions include more than 290 publications and 35 patents in areas ranging from anti-cancer therapeutics, tissue engineering, medical devices, and nanotechnology to bioinformatics software.

Ingber received his B.A., M.A., M.Phil., M.D., and Ph.D. degrees from Yale University before completing his postdoctoral training with Judah Folkman at Harvard University.

He holds the Judah Folkman Professorship of Vascular Biology at Harvard Medical School and Children's Hospital Boston, and he is a Professor of Bioengineering at the Harvard School of Engineering and Applied Sciences. Ingber served as Co-Director of Harvard's Center for Integration in Medicine and Innovative Technology at Children's Hospital from 2005-2007.

He helped to found two biotechnology start-ups, and has consulted for multiple pharmaceutical, biotechnology, venture capital and private investment companies, as well as the Department of Defense, Office of National Intelligence and National Public Radio. Among his many awards and distinctions, Ingber received the Biomedical Engineering Society's top award for 2009, the Pritzker Distinguished Lectureship, was named one of the world's "Best and Brightest" in 2003 by Esquire magazine, and is a recipient of a Breast Cancer Innovator Award from the Department of Defense.

Ingber is the Founding Director of the Wyss Institute for Biologically Inspired Engineering at Harvard University, which was launched in January 2009 with a $125 million dollar gift -- the largest single philanthropic gift in the history of Harvard University.

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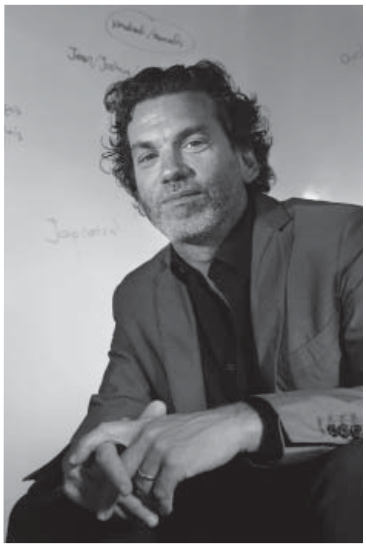
David Edwards



Klane - Fabien Thouvenin

David Edwards is a Harvard professor of bioengineering, inventor, and writer, the leader of an international creativity movement, described in his book “Artscience: Creativity in the Post-Google Generation” (Harvard University Press, 2008) that explores innovation as a creative process that is neither completely aesthetic nor scientific, but a fusion of the deductive logic of scientific experimentation with the intuitive inspiration of artistic creation.

Edwards’ commitment to social and cultural engagement through collaborative artistic and scientific discovery has led to remarkable arts partnerships, technological advances, and design solutions.

He is the founder or co-founder of the core laboratories of ArtScience Labs, the focus of his forthcoming book The Lab: Creativity and Culture (Harvard Press 2010), including Le Laboratoire (Paris), LaboGroup (Paris), the Idea Translation Lab @ Cloud Place and the associated Cloud Foundation (Boston), the Idea Translation Lab @ Harvard, and the Laboratory @ Harvard. He is also the scientific founder of the for-profit and nonprofit pharmaceutical organizations Advanced Inhalation Research (purchased by Alkermes in 1999), Pulmatrix (Massachusetts), and Medicine in Need (www.medicineinneed.org) in Cambridge, MA, Paris, France, and Pretoria, South Africa.

David Edwards is further the inventor of the culinary innovation Le Whif (www.lewhif.com) and the co-inventor of the ecological filter Andrea (www.andreaair.com), among other innovations.

Edwards authored the graphic novel Niche (Beaux-arts de Paris les editions, 2007) the first novel of the “Séguier Series,” written in collaboration with American novelist Jay Cantor and illustrated by New York artist Daniel Faust, and the graphic novel Whiff (Beaux-arts de Paris les éditions, 2008), illustrated by Japanese Manga artist Junko Murata.

Edwards holds a faculty position in the School of Engineering and Applied Sciences at Harvard University, and with the Wyss Institute of Biologically Inspired Engineering, also at Harvard. He teaches the principles of creativity and idea development across the arts and sciences.

In 2008, David Edwards was made Chevalier des Arts et des Lettres by the French Ministry of Culture. In the same year he was elected to the French National Academy of Engineering. He has been a member of the American National Academy of Engineering since 2000. In 2009, Edwards and his wife Aurélie Edwards announced with Boston Mayor Thomas Menino the creation of the Boston 100K ArtScience Innovation Prize. In 2010, Edwards introduced ArtScience Labs at the World Economic Forum in Davos.

More information on David Edwards’ groundbreaking work can be found at davidideas.com

Le Laboratoire

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Raphaël Haumont

Raphaël Haumont works as a Lecturer/Researcher at the Paris XI University, located in Orsay, just outside Paris, where he studies and teaches the physicochemical properties of materials. In his case, the key words are “Materials Science”. He studied this discipline at the University, extending his third level studies with a Ph.D., and then moved on to the study of materials and the relationships between the structure of materials and the resulting properties. It was also this passion that saw him investigate “food materials”, even dedicating part of his thesis to researching physicochemical phenomena in cooking. Research work done in this field gives insight into the physical phenomena at play when cooking, and leads to the development of new techniques, textures and dishes. He recently joined Le Laboratoire and Le FoodLab, where he works closely with the French chef Thierry Marx.
He teaches this subject at the University, trains catering and restaurant studies teachers, and uses cooking as a way to make the sciences more accessible to the general public (conferences, science days, etc.). His leisure activity, “materials painting” also expresses his interest in the altering and studying of materials.

DR

Sidi A. Bencherif

Sidi A. Bencherif is a researcher in bioengineeringin David Edwards’labat Harvard University. Specialized in polymer sciences, Dr. Bencherif studied first in France whereheobtained a M.Sc. inmaterial sciences beforegoing to the U.S.whereheobtaineda Ph.D. inpolymerchemistry forbiomedical applications at Carnegie Mellon University. Pursuinghis passion, Dr. Bencherif put his expertise to practise in global health in the development and stabilization of vaccine candidates for diseases of poverty.

DR

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Praticals informations

ADMISSION

Regular : 6 euros
Reduced : 4.50 euros
Group rate available upon request

OPENING DAYS

Friday, Saturday, Sunday, Monday from noon to 7 pm

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Métro

Louvre Rivoli,
ligne 1 (350 m)
Palais- Royal / Musée
du Louvre,
lignes 1 & 7 (300 m)

Bus

48, 74, 85, 21, 81, 67

Vélib'

12, rue du Colonel Driant
29, rue J.-J. Rousseau
192, rue Saint- Honoré

Parking

front of Le Laboratoire :
Parking Vinci, rue Croix des
Petits Champs

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