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The LBBE opens its doors for Science Day !

On 10 and 11 October, the laboratory will open its doors for Science Day. The programme includes lectures, workshops and games to discover ecology and evolution !

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As part of Science Week, the LBBE is organising several conferences, workshops and games for the general public and schoolchildren. On Friday 10 October, we are opening our doors to secondary school pupils who want to learn about ecology and evolution. On Saturday 11 October, we are offering activities open to all. The regional programme for the Fête de la Science can be viewed
here
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The events organised by the LBBE will take place at the laboratory's premises in the Mendel building on the La Doua campus.

Lectures offered by the LBBE on Friday 10 October (registration required) and Saturday 11 October (registration recommended):

- Friday, 10 October, from 10:30 a.m. to 12:00 p.m.: **"I am an ecosystem within the ecosystem."** Speakers: Fabrice Vavre and Natacha Kremer. Register here .
- Friday, 10 October, from 2:00 p.m. to 3:00 p.m.: "**Genes, Culture and Human Evolution"**(lecture in English). Speaker: Mark Stoneking. Register here .
- Friday, 10 October, from 3:00 p.m. to 4:00 p.m.: **"What DNA reveals about our evolutionary history."** Speakers: Laure Ségurel and Pascale Chevret. Register here .
- Friday, 10 October, from 4:00 p.m. to 5:00 p.m.: **"The Alpine Marmot Project: A Scientific Adventure in the Heart of the Alps."** Speaker: Rebecca Garcia. Register here.
- Saturday, 11 October, from 2:00 p.m. to 3:00 p.m.: **"The secret of oak forests in the face of climate change**". Speaker: Marie-Claude Venner. Register here .
- Saturday, 11 October, from 3:00 p.m. to 4:00 p.m.: **"How is AI revolutionising biology ? "**Speaker: Bastien Boussau. Register here .

Workshops and games offered by the LBBE on Friday 10 October (registration required) and Saturday 11 October :

- **Symbiosis: a story of two.** An augmented reality investigation to discover the inseparable couples of the living world. Free workshop (you can register your attendance here), Friday and Saturday.
- **Bedbugs: catch them all (or not) !** A bite-sized board game to learn more about these nocturnal invaders. Free workshop (you can register your attendance here), *Saturdays only.*
- **From atoms to the universe.** Step by step, you will traverse the scales of the world, from the microscopic to the cosmic. Open workshop (you can register your attendance here), Friday and Saturday.

- **Trompe-l'œil 2.0.** Can you tell the difference between a real photograph and an image generated by AI ? Free workshop (you can register your attendance here), Friday and Saturday.
- **What does it look like ?** Intriguing scientific images to guess... and decode. Free workshop (you can register your attendance here), Friday and Saturday.
- **Science in Bubbles : the PhD students' comic book.** Discover the comic book 'Science in Bubbles', the result of the work of eight PhD students from all walks of life (including Sasha Darmon , a PhD student at LBBE). Through giant comic strips and a comic book to take away, immerse yourself in the world of science told in a different way: accessible, rigorous and captivating. Free workshop (you can register your attendance here), Friday and Saturday.
- **Behind the scenes in the laboratory.** Flies, wasps, butterflies and bedbugs: they are all discreet protagonists of science. Free workshop (you can register your attendance here), Friday and Saturday
- **Does the Almasty really exist ?** In this escape game, step into the shoes of a scientist to validate or debunk a sensational discovery. Register here .
- **Sur les traces du chevreuil : saurez-vous préserver l'équilibre ?** Un jeu de stratégie où chaque décision compte pour nourrir votre groupe sans faire disparaître l'espèce ! Inscription ici .
- **Cosmic Camera Bot** : AI teaches you how to recognise alien species. Discover the principle of image recognition by AI through the Cosmic Camera Bot video game. Register here.
- **Fresco depicting human impact on alpine marmots**. In this fun workshop, participants reconstruct the cause-and-effect relationships between human impact and the life cycle of alpine marmots, then explore actions that can be taken to limit this impact. Register here .

For more information, please contact us :
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et
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Below you will find a brief description of each of the activities offered by the LBBE.

Conference : I am an ecosystem within the ecosystem

At the Laboratory of Biometrics and Evolutionary Biology, research is conducted in the field of global health, i.e. the link between human health, animal health, ecosystem health, etc. During this conference, two researchers from the laboratory will present the link between this theme and that of symbiosis between organisms. Far from being isolated organisms, we are all ecosystems—in symbiosis with microorganisms that provide us with nutrients, in conflict with viruses and other parasites, etc.

Speakers: Fabrice Vavre and Natacha Kremer

Conference : Genes, Culture, and Human Evolution.

It is often said that humans have stopped evolving because we adapt through culture. But what if, on the contrary, our cultural practices were changing our bodies? This lecture examines how culture and biology influence each other. Far from freezing our evolution, culture continues to transform our species by influencing our genes. And we can use genetics to learn more about cultural practices – for example, when humans started wearing clothes! A fascinating dive into the intersection of biology, culture and anthropology.

Speaker:
Mark Stoneking
(chercheur invité au LBBE, anciennement chercheur à l'Institut Max Planck d'Anthropologie Evolutive de Leipzig).

Conference : What DNA reveals about our evolutionary history

The speakers (Laure Ségurel and Pascale Chevret) will review recent contributions from molecular studies on the evolutionary history of human populations.

- Thanks to genetic data, in addition to archaeology and palaeontology, scientists can trace the history of human evolution. Whether it be migrations, changes in population size, or adaptations to the environment, these events leave detectable traces in our genomes. Sequenced for the first time in 2001, the modern human genome has since yielded a wealth of information. This has not only allowed us to better understand our relationship to great apes, but also to better understand how Homo sapiens emerged and colonised all continents. This lecture will also explore how our ancestors adapted to profound changes, such as the transition to agriculture and new diets.
- For more than 10,000 years, the house mouse has followed humans wherever they go. By analysing its DNA, scientists can reconstruct the major stages of our migrations: those of the Iron Age peoples around the Mediterranean, the Viking expeditions, and the maritime routes from the 15th century onwards. These animals thus become valuable witnesses to our history. During this lecture, you will discover how the genetics of mice, as well as other mammals, can shed light on the evolution of human societies across time and space.

Conference : The Alpine Marmot Project: a scientific adventure in the heart of the Alps

For over 30 years, a research team has been tracking marmots in the Grande Sassière Nature Reserve to better understand their lifestyle, social organisation and the effects of climate change. This conference takes you into the field, where the data comes to life: how do we observe, capture and identify these animals? How is data collected, and what does it reveal to us? Through anecdotes from the field, accessible science and immersion in the mountains, discover the behind-the-scenes of a major scientific project.

Speaker: Rebecca Garcia

Conference : The future of oak forests in the face of climate change

The massive, synchronised fruiting of trees is essential for forest regeneration. However, its mechanisms remain poorly understood, making it difficult to predict how it will evolve in the face of climate change. Since 2012, a study has been tracking the flowering and fruiting of 150 oak trees across France, revealing significant variations depending on local climatic conditions. This research has led to the development of tools for predicting acorn production, which are essential for forest management.

Speaker: Marie-Claude Venner

Conference : How is AI revolutionising biology?

Artificial intelligence is currently driving a revolution in the world of biology. These new statistical and computational approaches make it possible to exploit the vast amounts of biological data (such as the DNA sequences of different organisms) available today to make new predictions about their functions or evolutionary history. But while artificial intelligence saves time in research processes, the contributions of these methods and their impact on the planet must be rigorously evaluated.

Speaker: Bastien Boussau.

Workshop: Fresco depicting the human impact on the alpine marmot

During this fun workshop, participants reconstruct the cause-and-effect relationships of human impact on the life cycle of alpine marmots, and then explore actions that can be taken to limit this impact. The workshop takes place in three phases: first, the life of the alpine marmot is explained, then the ways in which humans disrupt it are identified, and finally, the levers for action to preserve marmots are explored.

Audience: **from 11 years old**

Workshop : Cosmic Camera Bot: AI teaches you to recognise alien species

To track wild animal populations, researchers often use camera traps, which capture thousands of images. But how can we identify all the animals hiding in these images without spending hours doing so? Artificial intelligence (AI) approaches come to the rescue. Come and lend a hand to Dr Muonic, who is studying biodiversity on the planet Alphagrax. With the help of his trusty assistant CameraBot-v1843, Dr Muonic enjoys recognising alien species...

Audience: **from 11 years old**

Workshop : Following in the footsteps of the deer, will you be able to maintain the balance?

Form teams, discuss and decide how many deer to hunt. Players must decide together or compete to decide how many to harvest, while avoiding extinction. A simulation shows the real impact of their choices on the ecosystem. A strategy game where every decision counts to feed your group without causing the species to disappear !

Audience: **from 11 years old**

Workshop : Does the almasty really exist?

You are part of a committee of scientific reviewers tasked with examining a surprising article: Professor Sailuimai claims to have discovered a creature believed to be legendary: the Almasty.

To verify his claims, you will need to investigate directly in his laboratory. Put on a lab coat, search the lab, analyse the clues, use a microscope and DNA... In the end, you will have to decide: science or fiction? A fun immersion in scientific rigour.

Audience: **from 11 years old**

Open access workshops

What does it look like?

Intriguing scientific images to guess... and decipher.Have fun guessing what images shown out of context, without reference points or scale, depict: a bone? A cell? A galaxy? This fun workshop invites you to explore the pitfalls of scientific images: misleading zooms, false colours... Your eye will become critical, and so will your mind!

Audience: *from 7 years old*

Trompe l'oeil 2.0

Can you tell the difference between a real photograph and an image generated by AI?

Between illusion and reality, is your eye sharp enough? A workshop-game where real images and artificial intelligence creations intermingle. It's up to you to unravel the secrets of algorithms and better understand how AI manipulates... pixels and our perception.

Audience: *from 11 years old*

From the atom to Universe

Step by step, you will traverse the scales of the world, from the microscopic to the cosmic.

Climb the scales of magnitude by walking along an interactive frieze: starting with an atom and ending with the universe. Discover where human beings fit into this dizzying continuum. A journey to raise awareness of our place in the infinitely vast (and the infinitely small!).

Audience: *from 7 years old*

Symbiosis : a story for two

An augmented reality investigation to discover the inseparable couples of the living world.

Take part in a scientific treasure hunt combining puzzles and augmented reality to explore the many forms of symbiosis. Plants, animals... and even your own body are home to invisible but essential partners. Scan with your phone, play, discover!

Audience: *from 10 years old*

Good to know: A phone is required.

Behind the scenes in the laboratory

Flies, wasps, butterflies and bedbugs: they are all discreet protagonists of science.

Explore the laboratory's insect farms and observe species collected in the region under a microscope. Learn to recognise species, differentiate between males and females, and discover the secrets of our mutants. A workshop to understand how these little creatures contribute to great discoveries!

Audience: *ages 11 and up*.

Workshop : bedbugs, catch them all (or not) !

You inherit ten bedbugs... will you be able to get rid of them? Through a series of cards and twists and turns (sniffer dogs, tumble dryers and hungry centipedes), learn how to outsmart these stubborn insects, while discovering the real ways to combat them.

Audience: *ages 11 and up*, **Saturday 11 October only.**

Science in bubbles: the PhD students' comic strip

Discover the comic book ‘Sciences en Bulles’ (Science in Bubbles), the result of the work of eight PhD students from all walks of life. Through giant comic strips and a comic book to take away, immerse yourself in the world of science told in a different way: accessible, rigorous, but above all captivating.

Audience : *from 11 years old*