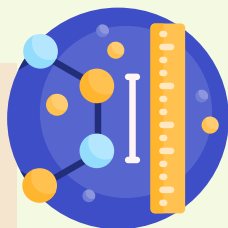


Nanotech meets genomics

Nanotechnology, a rather recent branch of science, is finding several applications due to its ability to **replicate**, on a nanoscale, what happens in nature.

Working... at a small scale!

Nanotechnology covers the branches of science that operate, using or creating materials, at the nanometric scale. These are very small dimensions indeed, absolutely not visible to the naked eye, if you consider that a nanometre is equivalent to a **millionth** of a **millimeter** (or a billionth of a meter)!



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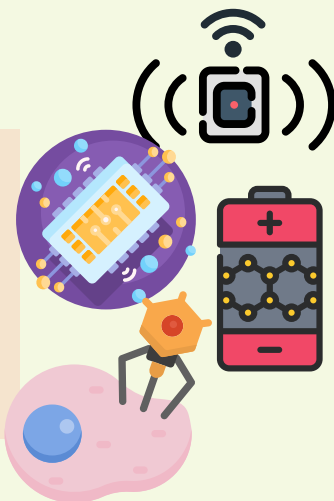


Rapid development

Born around the mid-1980s, nanotechnologies have experienced a remarkable increase in terms of fields of use over the last 20 years, thanks to their ability to **study** and **replicate** phenomena that occur in nature at the nanometric scale.

Lots of applications

The **applications** of nanotechnology currently available are very varied and important, ranging from sensor technology to electronics and information technology, from materials engineering to biology and medicine.



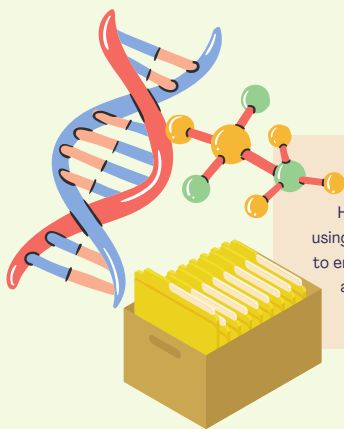


A biological data archive

The **DNA Fairylights** project aims to develop a system that can exploit DNA to store large amounts of data.

These data are too many!

Every day we produce around 2.5 quintillion bytes of data. An impressive figure itself, that is constantly **increasing**: it is estimated that in the last two years alone, 90 per cent of the data currently stored globally has been generated. A pace that is **unsustainable** using the data storage systems used so far...

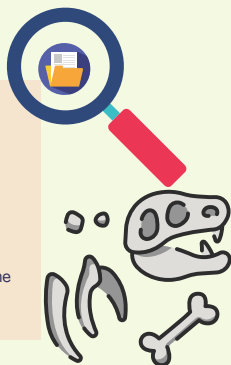


Exploiting DNA

Here, then, is the idea of DNA Fairylights: using special **light-emitting nanomolecules** to encode the information we want to store and then using our **DNA** as a nanoscopic 'data warehouse'.

Little space and a looooot of time

The advantage of this type of storage would not only lie in the **extremely small storage space** required. In fact, if properly maintained, DNA can hold information for **millions of years**, just like that one contained in dinosaur fossils.



Find out more on DNA Fairylights, following its results and developments, on:



<https://dnafairylights.eu>



@dnafairylights

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