

What is CRISPR-Cas9?

CRISPR-Cas9 is a genome editing tool that is creating a buzz in the science world. It is faster, cheaper and more accurate than previous techniques of editing DNA and has a wide range of potential applications.

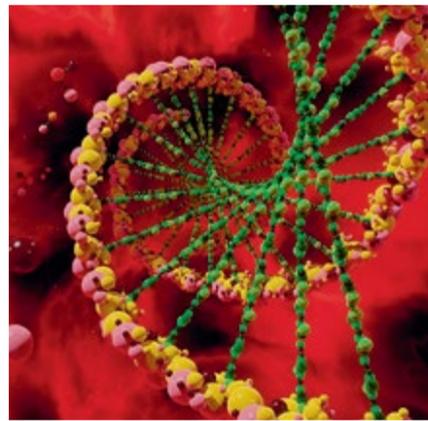
WHAT IS CRISPR-CAS9?

CRISPR-Cas9 is a unique technology that enables geneticists and medical researchers to edit parts of the genome by removing, adding or altering sections of the DNA sequence. It is currently the simplest, most versatile and precise method of genetic manipulation and is therefore causing a buzz in the science world.

HOW DOES IT WORK?

The CRISPR-Cas9 system consists of two key molecules that introduce a change (mutation) into the DNA. These are:

- an enzyme called Cas9. This acts as a pair of ‘molecular scissors’ that can cut the



two strands of DNA at a specific location in the genome so that bits of DNA can then be added or removed.

- a piece of RNA called guide RNA (gRNA). This consists of a small piece of pre-designed RNA sequence (about 20 bases long) located within a longer RNA scaffold. The scaffold part binds to DNA and

the pre-designed sequence ‘guides’ Cas9 to the right part of the genome. This makes sure that the Cas9 enzyme cuts at the right point in the genome.

The guide RNA is designed to find and bind to a specific sequence in the DNA. The guide RNA has RNA bases that are complementary to those of the target DNA sequence in the genome. This means that, at least in theory, the guide RNA will only bind to the target sequence and no other regions of the genome.

The Cas9 follows the guide RNA to the same location in the DNA sequence and makes a cut across both strands of the DNA.

At this stage the cell recognizes that the DNA is damaged and tries to repair it.

Scientists can use the DNA repair machinery to introduce changes to one or more genes in the genome of a cell of interest.

—Source: <http://www.yourgenome.org/>

THE BUSINESS BOOK SHELF

The Ethics of Invention

BY SHEILA JASANOFF, W.W. NORTON



Technology rules us as much as laws do. It shapes the legal, social, and ethical environments in which we act. Every time we cross a street, drive a car, or go to the doctor, we submit to the silent power of technology. Yet, much of the time, the influence of technology on our lives goes unchallenged by citizens and our elected representatives. In *The Ethics of Invention*, Sheila Jasanoff dissects the ways in which we delegate power to technological systems and asks how we might regain control. Our embrace of novel technological pathways leads to a complex interplay among technology, ethics, and human rights. Inventions like pesticides or GMOs can reduce hunger but can also cause unexpected harm to people and the environment. Advances in biotechnology, from GMOs to gene editing, have given us tools to tinker with life itself, leading some to worry that human dignity and even human nature are under threat. But despite many reasons for caution, we continue to march heedlessly into ethically troubled waters. Technology can warp the meaning of democracy and citizenship unless we carefully consider how to direct its power rather than let ourselves be shaped by it. *The Ethics of Invention* makes a bold argument for a future in which societies work together—in open, democratic dialogue—to debate not only the perils but even more the promises of technology.

Jargonaut

DOX

a.k.a. doxed, doxing, doxxed, doxxing, documents
Having your personal information spilled online

IDENTITY CRASH

A sudden and catastrophic collapse of an individual's ability to keep all the profiles of his or her online identity straight when the individual joins one too many social networks.

OPEN THE DRAPES

A slang expression that refers to people telling the online world about themselves.

VANITY PAGE

An individual's personal homepage (as opposed to a commercial Web site).

HANDLE

Your handle is your online nickname or the name you go by in a chat room.

BARON COMPANY

a.k.a. barony -or- big fish in a little pond
A high-tech company located in a rural place

HEAT-SEEKING WORK FORCE

The style of some people who work in Silicon Valley or other new economy hotspots. They flock to the “hot” companies and then move on if the stock price drops.

<http://www.netlingo.com>

Agioli—Thessaloniki Style

Athens may be Greece's cultural capital but Thessaloniki, hands down, is the country's first city for dining and gastronomy. At the heart of the Northern hub, in Aristotelous Square, with sea and mountain views—all the way to Mt. Olympus—sits Agioli—for a meze or for an elegant dinner. Agioli delves into Greek tradition, serving traditional fare such as tzatziki, tarama, fava, dakos, cod, a variety of salads, seafood meze, including octopus, calamari and mussels.

A nod to broader Mediterranean fare includes risotto and pasta, and the meat card includes traditional oven-baked favorites such as roast lamb and lemon and candied pork side along with grilled beef, pork and chicken. Cheese and cold cut plates are ideal to match the wine and beer list, with local specialties. And fresh cut French Fries are a good, good sign.

Special meat and seafood menus cater to specific tastes as do the menus for two or four and the kids menu.



Agioli
15 Nikis Avenue, 2310 262 888, <http://agioli.gr/>

TRAVELOGUE

NAFLIO—A GETAWAY WITH STYLE



Why not combine visiting one of the most stylish Greek cities with a stay in a hotel that reflects the local heritage? Nafplion, the home of Greece's first modern capital, sitting grandly on a naturally protected peninsula, is home to a large number of well-designed Venetian-influenced and Neo Classical buildings. Ideal for strolling, Nafplio boasts cafes, restaurants, shops, museums and galleries and historic sites that make for a wonderful weekend getaway. Ideal as well as a base to visit Mycenaean, Epidavros, Nemea, Argos, and Corinth, with its mild climate year round, Nafplio can be an enjoyable 4-5 day stay—after all, the riches of the area are significant to Greek history.

“Old-world” might define your hotel choice—the city is rightfully proud of its hostels that have been carefully renovated and fitted with comfort and charm. Local ingredients are the dining rule and breakfasts are a key attraction. Just be sure to book in advance as the properties are generally small and demand can be high, especially on weekends.

Consider the Hotel Byron, Amphitryon Hotel, Grande Bretagne, Nafplion1841, and the Amymone and Adiandi pensions.

BY ANDREAS STYLIANOPOULOS
PRESIDENT, NAVIGATOR TRAVEL & TOURIST SERVICES LTD