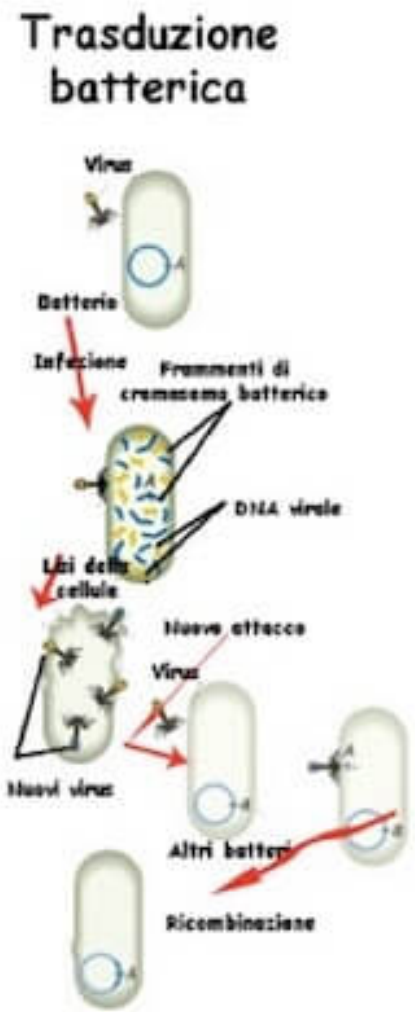
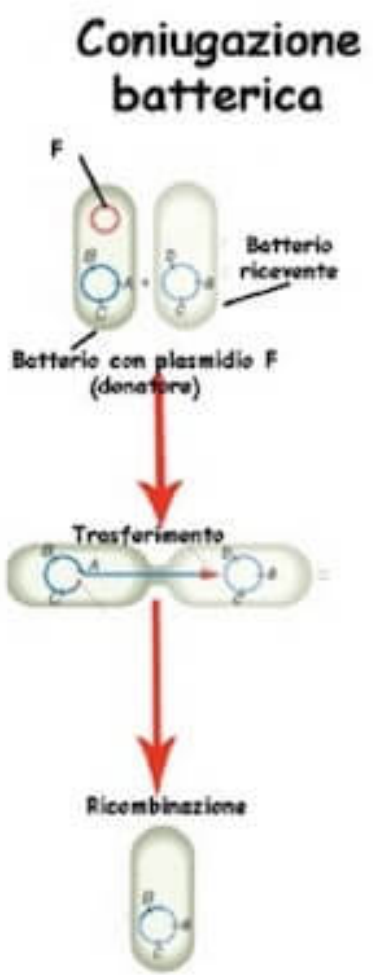
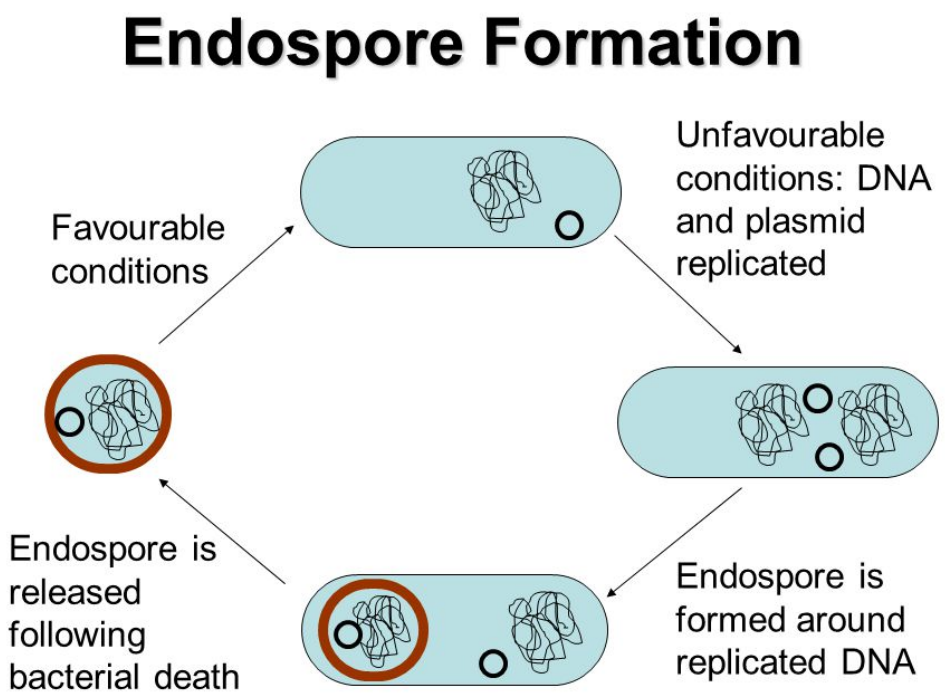




https://www.bing.com/videos/search?q=bacterial+conjugation+trasformation&&view=detail&mid=34D8FF58B1CA0A254BBF34D8FF58B1CA0A254BBF&&FORM=VDRVRV

Spore forming bacteria are tougher than the average microscopic unicellular organism. These species, which include the genera *Bacillus*, *Clostridium* and *Sporolactobacillus*, can surround themselves with durable coats of protein that allow them to survive in hostile environmental conditions. As spores, bacteria can remain dormant for years, protected from stresses such as chemicals, heat, radiation and dehydration. When revived, however, these bacteria can cause a number of diseases, including botulism, anthrax, tetanus and acute food poisoning.

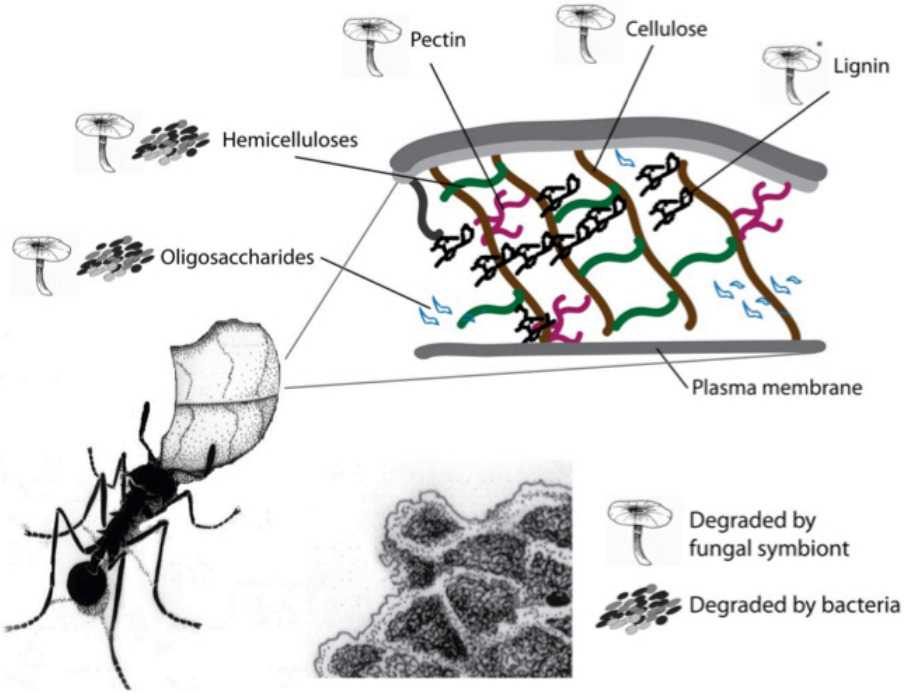
https://youtu.be/NAcowliknPs



↳ DIFFERENT WAYS TO LIVE FOR BACTERIA

Symbiosis

- Close relationship between to species in which at least one species benefits from the other
- For example, Zoamastogopera, found in the stomach of termites, enable them to digest cellulose
- Live together for LIFE



https://youtu.be/RkKGQtQzcel

The human body carries about 100 trillion microorganisms in its intestines, a number ten times greater than the total number of human cells in the body. The metabolic activities performed by these bacteria resemble those of an organ, leading some to liken gut bacteria to a "forgotten" organ. It is estimated that these gut flora have around a hundred times as many genes in aggregate as there are in the human genome.

Gut flora or, more appropriately, gut microbiota, consists of a complex of microorganism species that live in the digestive tracts of animals and is the largest reservoir of microorganisms symbiotic to humans. In this context *gut* is synonymous with *intestinal*, and *flora* with *microbiota* and *microflora*. Gut microorganisms benefit the host by gleaning the energy from the fermentation of undigested carbohydrates and the subsequent absorption of short-chain fatty acids. Intestinal bacteria also play a role in synthesizing vitamin B and vitamin K as well as metabolising bile acids and sterols

necessarie per crescere e metabolismo

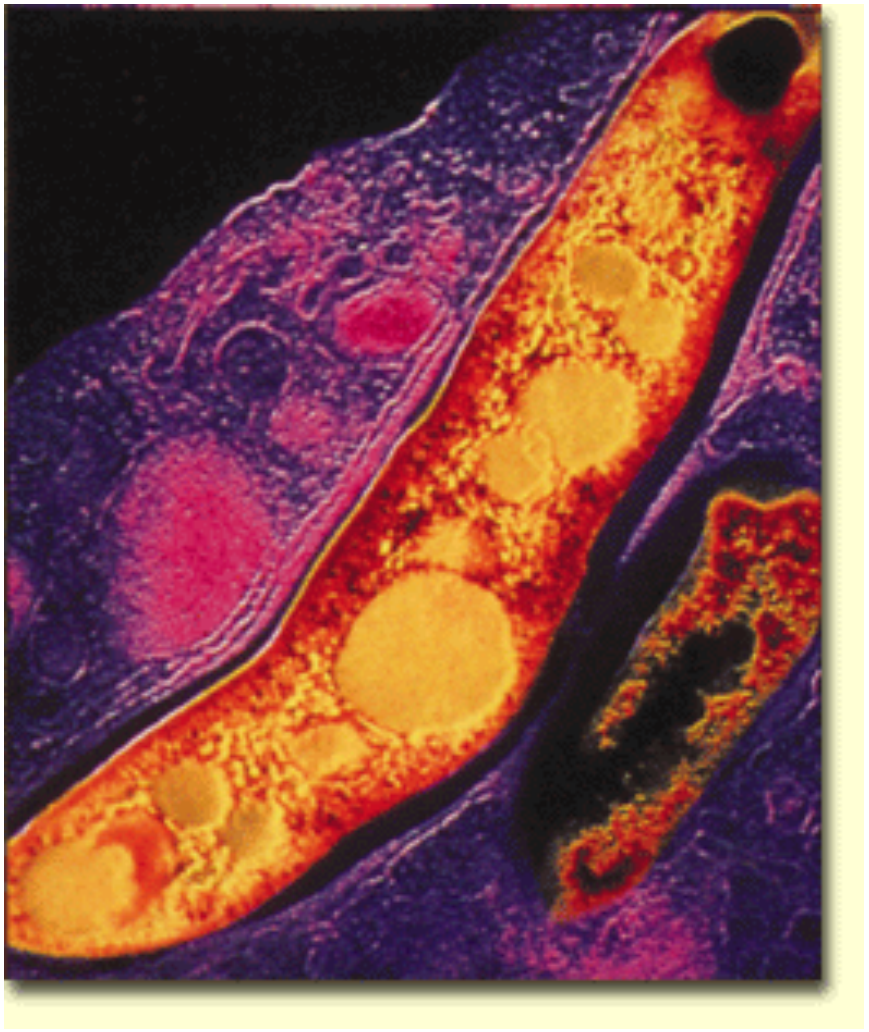
BOH

https://youtu.be/Af5qUxl1ktI

Parasitism

ALTRO MODO DI VIVERE DEI BATTERI

- Bacteria exploit the host cell, injuring them
- Eg. Mychobacterium tuberculosis



Pathogenic bacteria are bacteria that cause bacterial infection

Although most bacteria are harmless or often beneficial, several are pathogenic. One of the bacterial diseases with the highest disease burden is tuberculosis, caused by the bacterium *Mycobacterium tuberculosis*, which kills about 2 million people a year, mostly in sub-Saharan Africa. Pathogenic bacteria contribute to other globally important diseases, such as pneumonia, which can be caused by bacteria such as *Streptococcus* and *Pseudomonas*, and foodborne illnesses, which can be caused by bacteria such as *Campylobacter*, and *Salmonella*. Pathogenic bacteria also cause infections such as tetanus, typhoid fever, diphtheria and syphilis.

DIFTERITE SIFILIDE