

FUTURE CENTRE



Tecnologie che imitano la Natura

Verso il Grande e il Piccolo



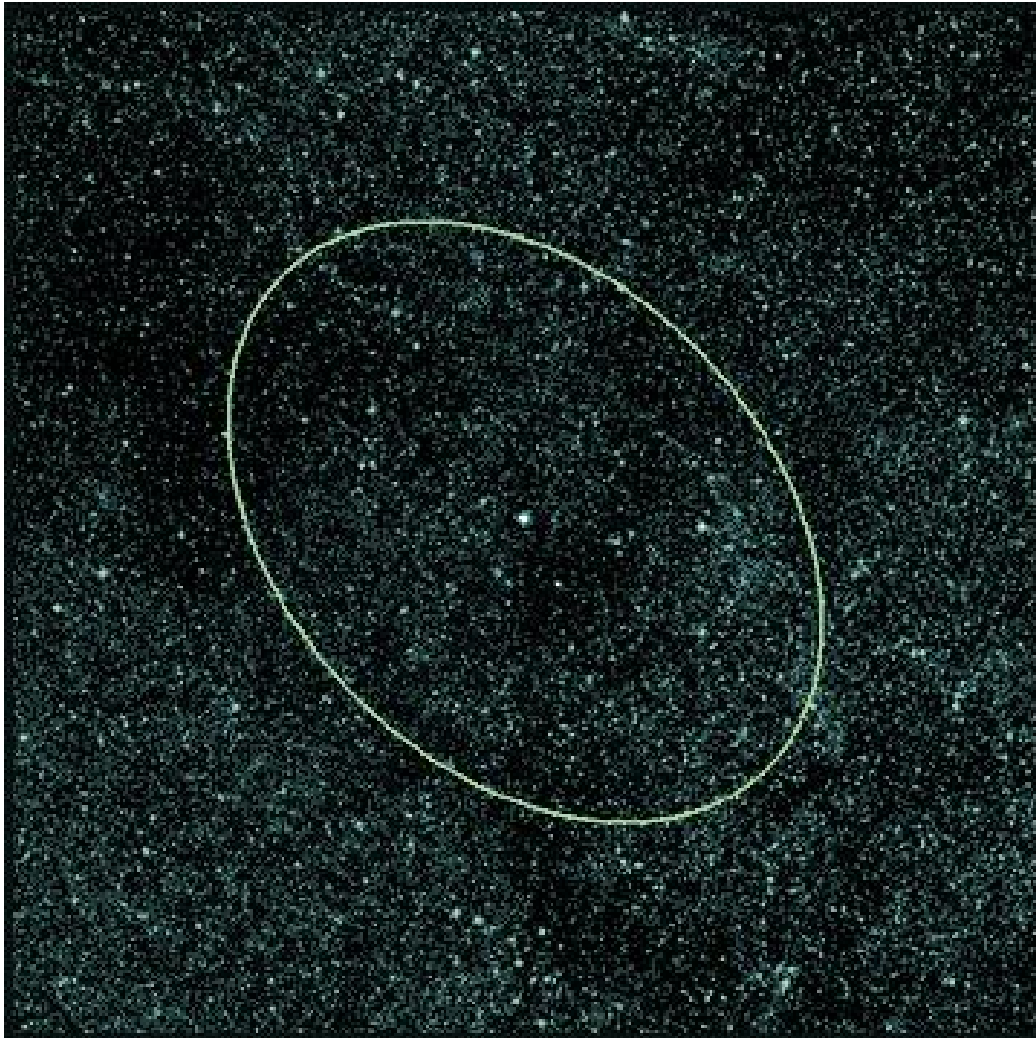
Cosa vuol dire piccolo?

10^{-9} metri = 1 nanometro = 0, 000 000 001 metri

nm

Cosa vuol dire piccolo?

10^9 metri = 1 000 000 000 metri



10^0 metri = 1 metro



Cosa vuol dire piccolo?

10^8 metri = 100 000 000 metri



10^{-1} metri = 0,1 metri



Cosa vuol dire piccolo?

10^7 metri = 10 000 000 metri



10^{-2} metri = 0,01 metri

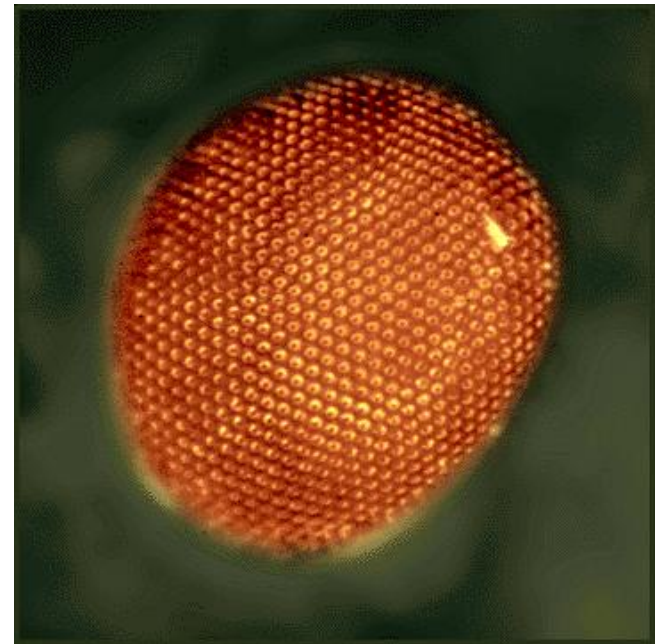


Cosa vuol dire piccolo?

10^6 metri = 1 000 000 metri

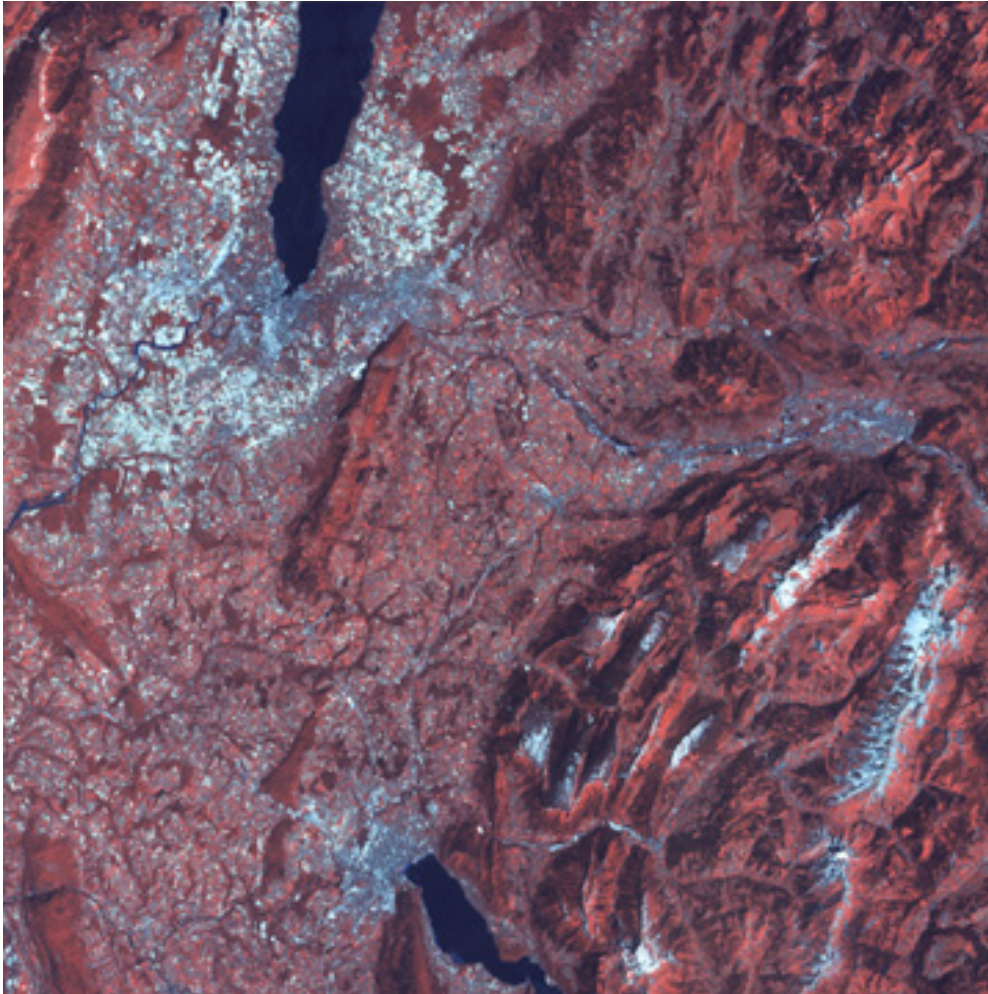


10^{-3} metri = 0,001 metri

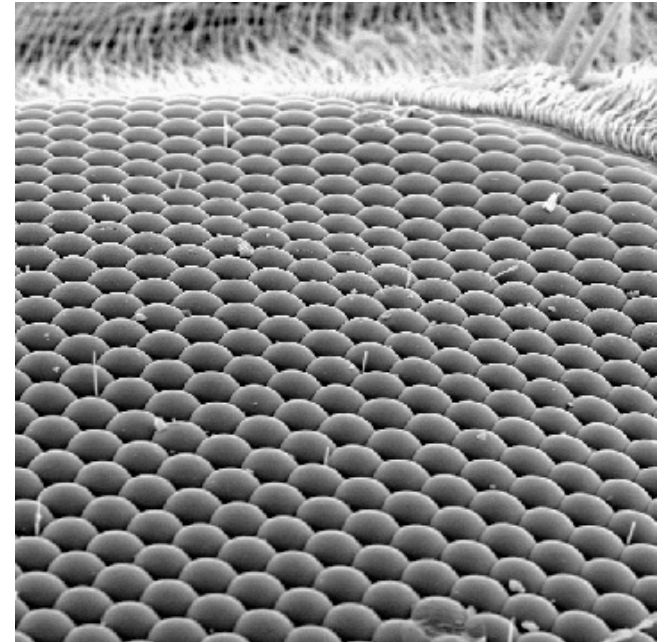


Cosa vuol dire piccolo?

10^5 metri = 100 000 metri

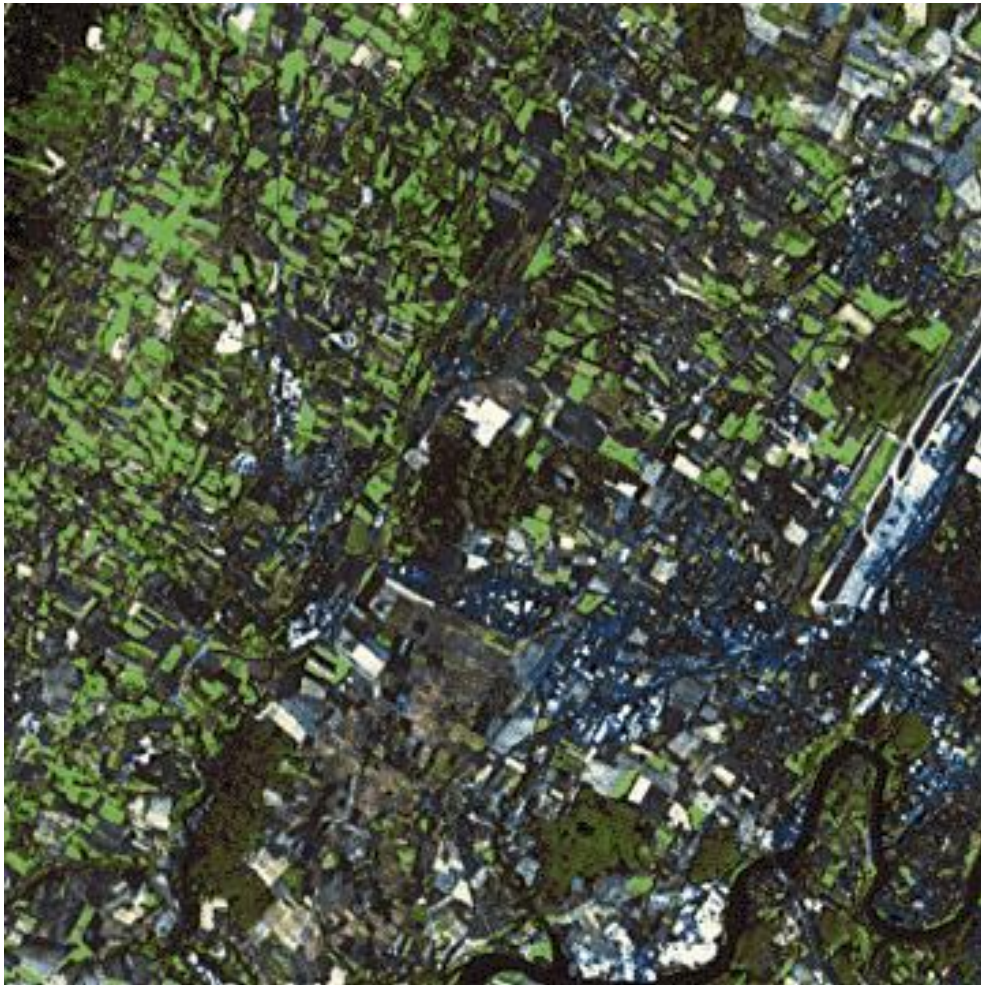


10^{-4} metri = 0,000 1 metri



Cosa vuol dire piccolo?

10^4 metri = 10 000 metri



10^{-5} metri = 0,000 01 metri



Cosa vuol dire piccolo?

10^3 metri = 1 000 metri



10^{-6} metri = 0,000 001 metri

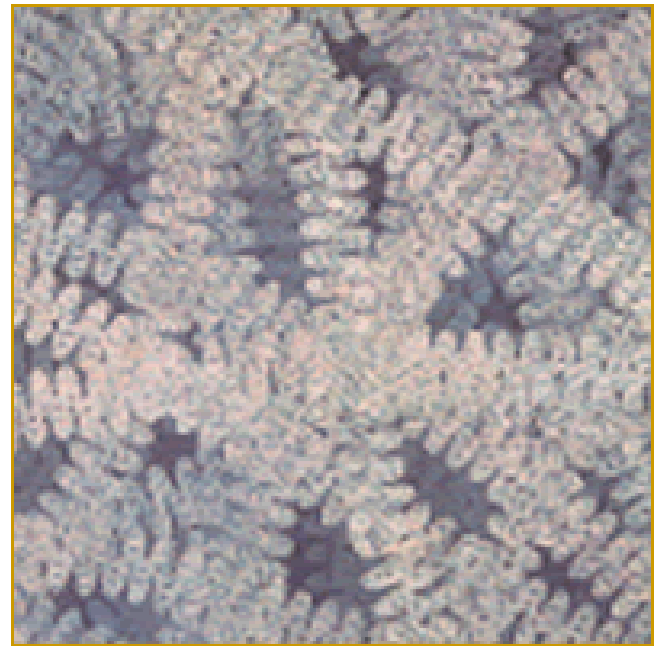


Cosa vuol dire piccolo?

10^2 metri = 100 metri



10^{-7} metri = 0,000 000 1 metri

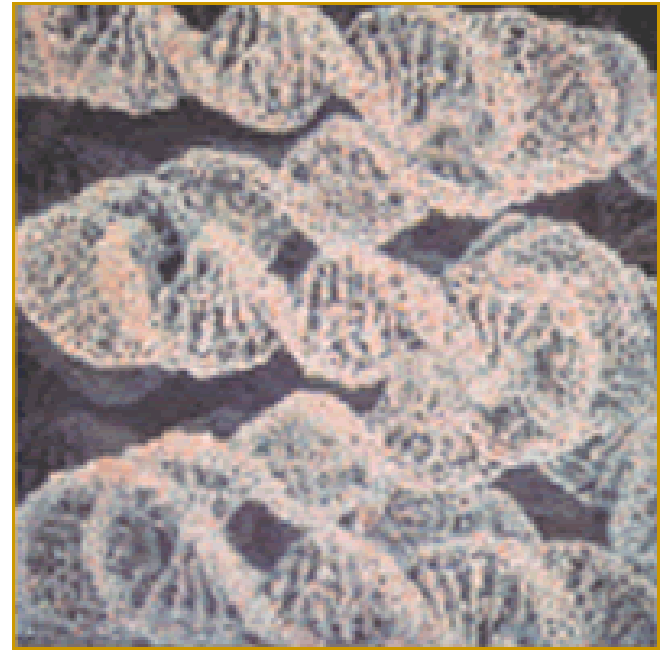


Cosa vuol dire piccolo?

10^1 metri = 10 metri

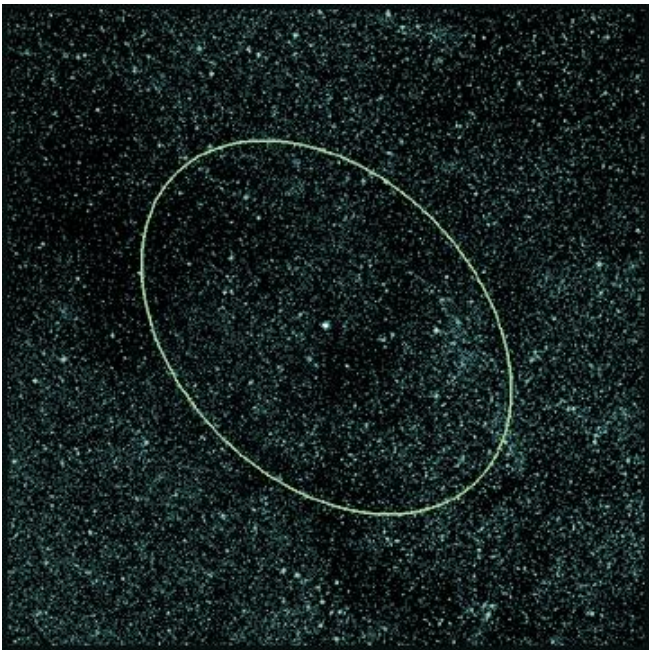


10^{-8} metri = 0,000 000 01 metri



Cosa vuol dire piccolo?

10^9 metri = 1 000 000 000 metri 10^{-9} metri = 0,000 000 001 metri



31 anni 8 mesi 15 gg



1 metro



1 sec



1 nsec

300 milioni di m

30 cm

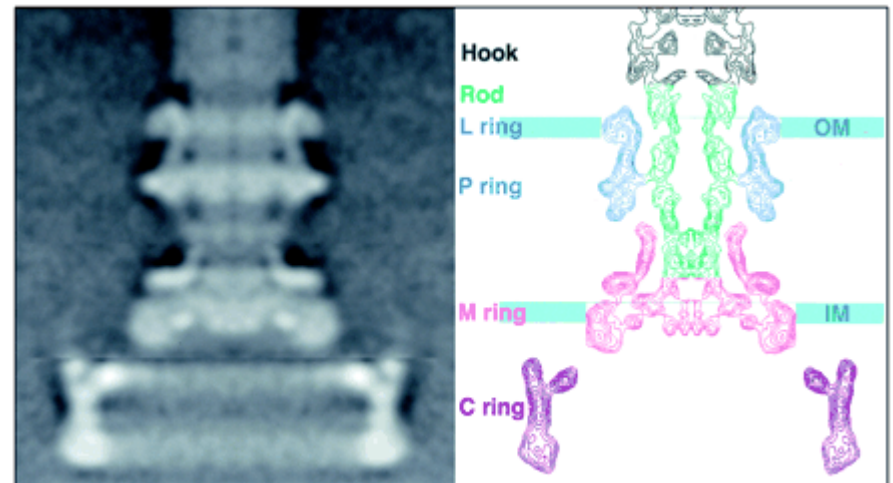
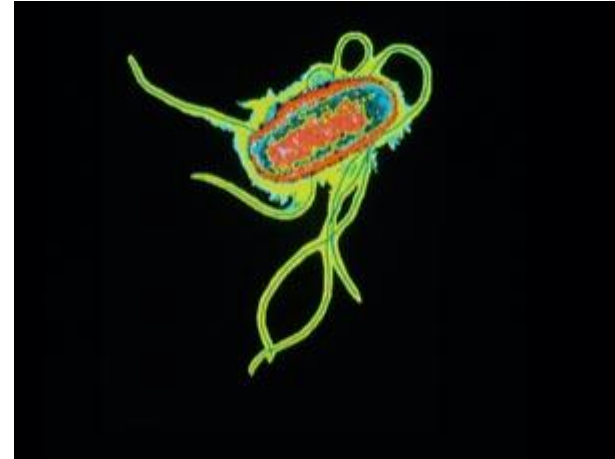
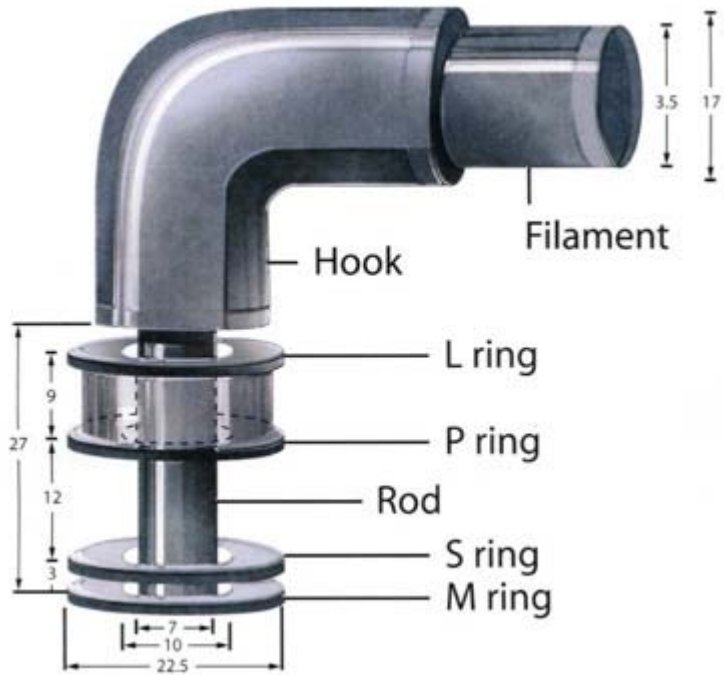
Le Nanotecnologie



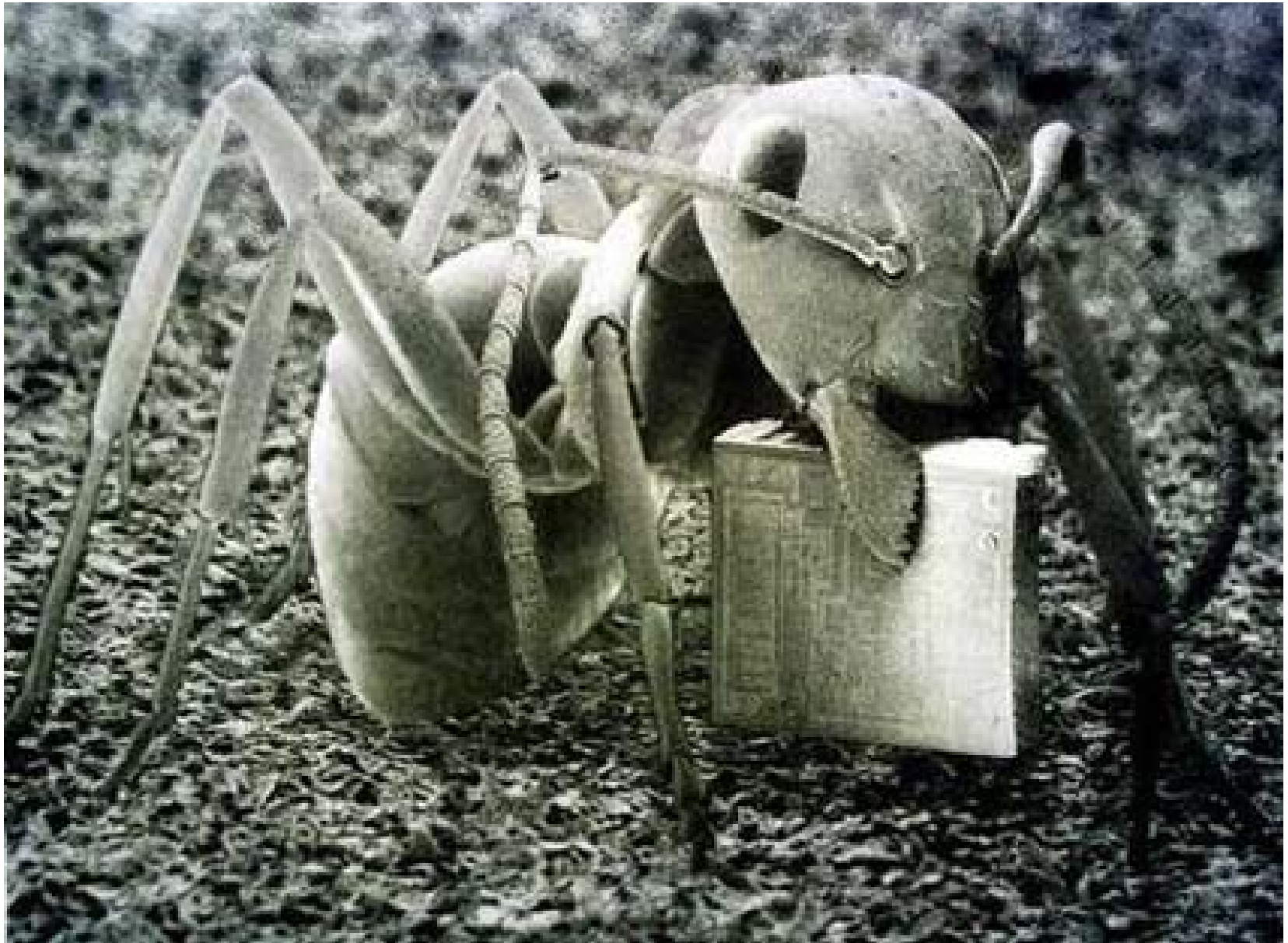
Le Nanotecnologie



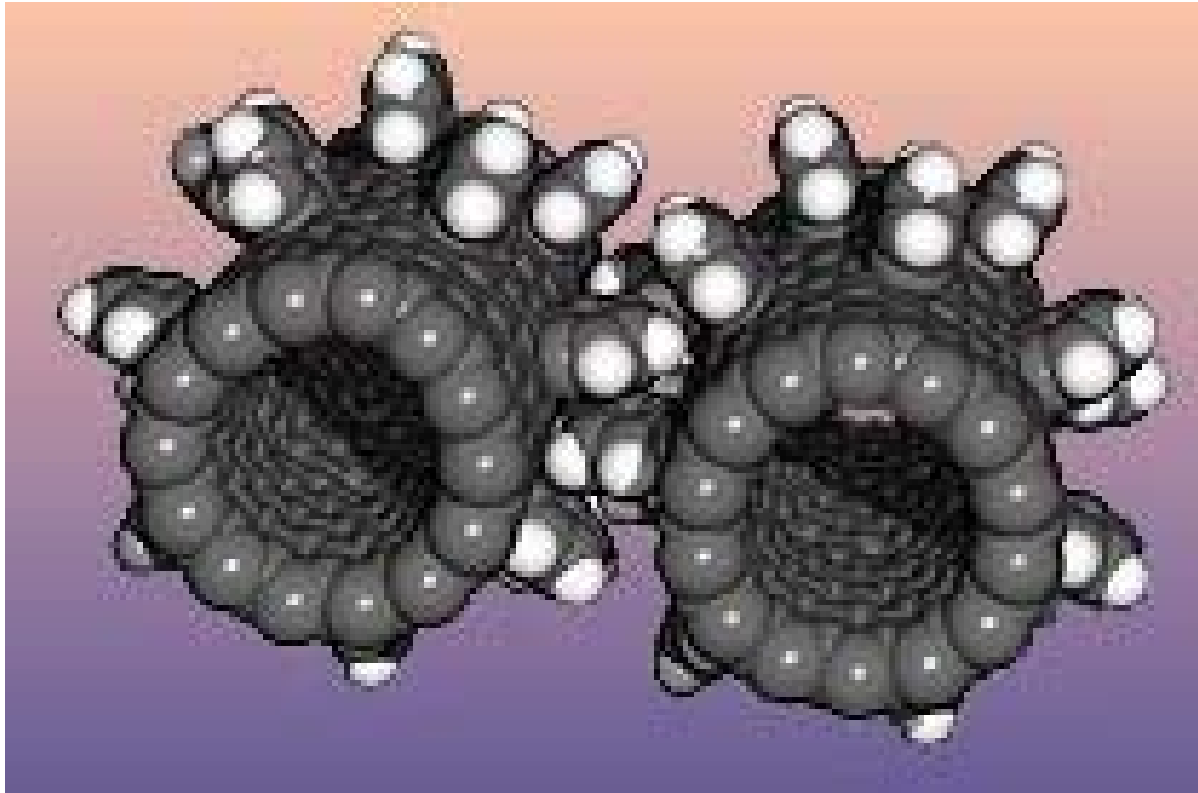
Le Nanotecnologie



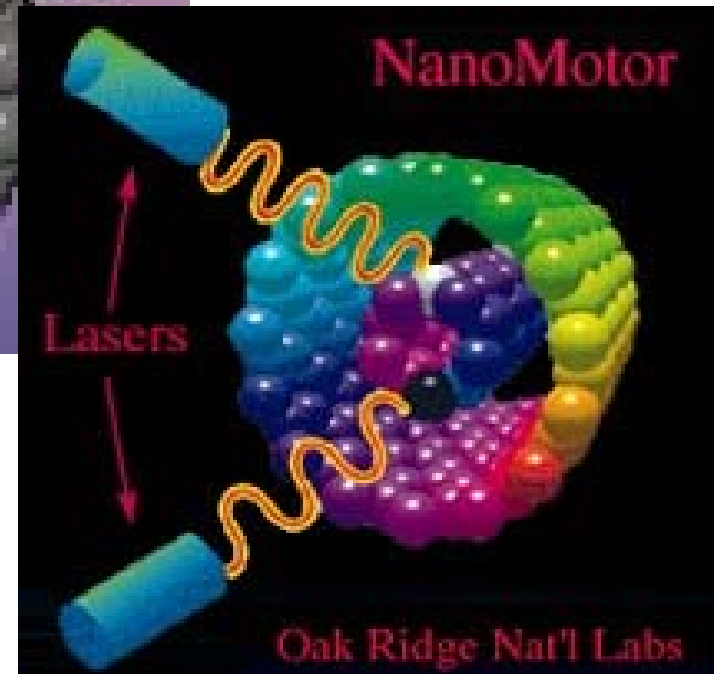
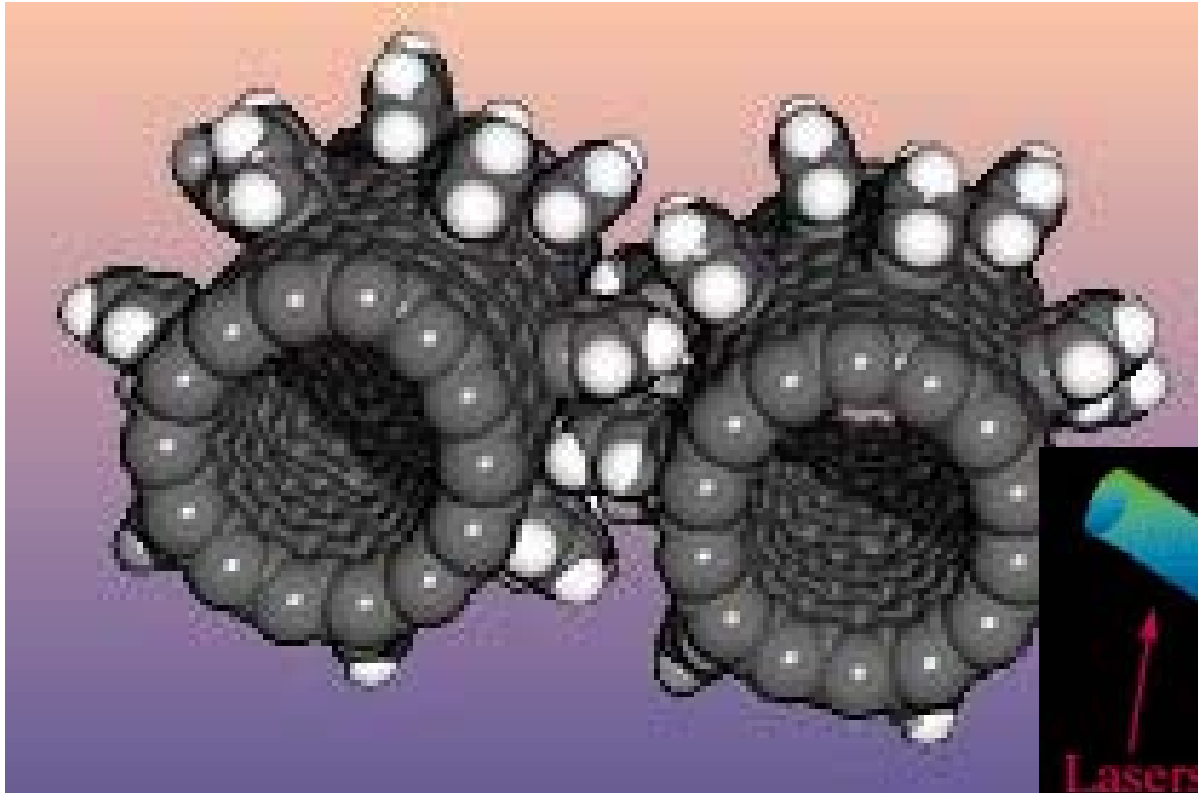
Le Nanotecnologie



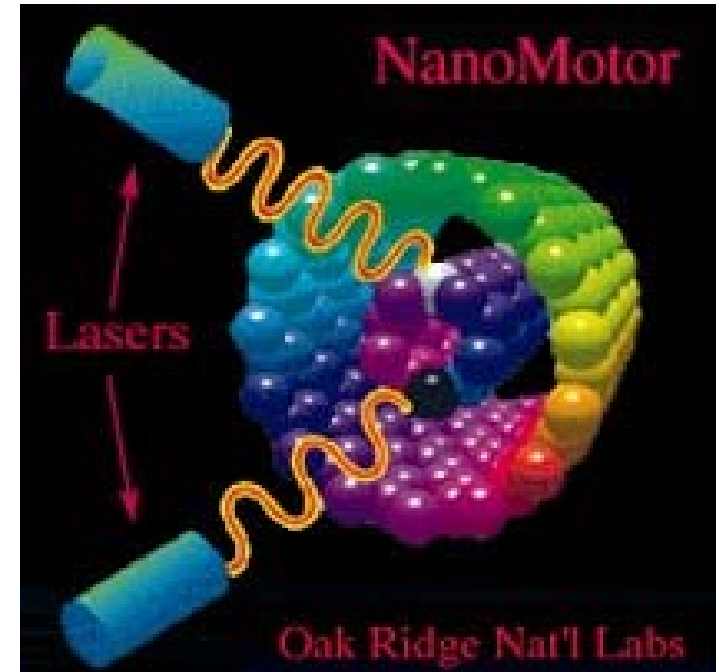
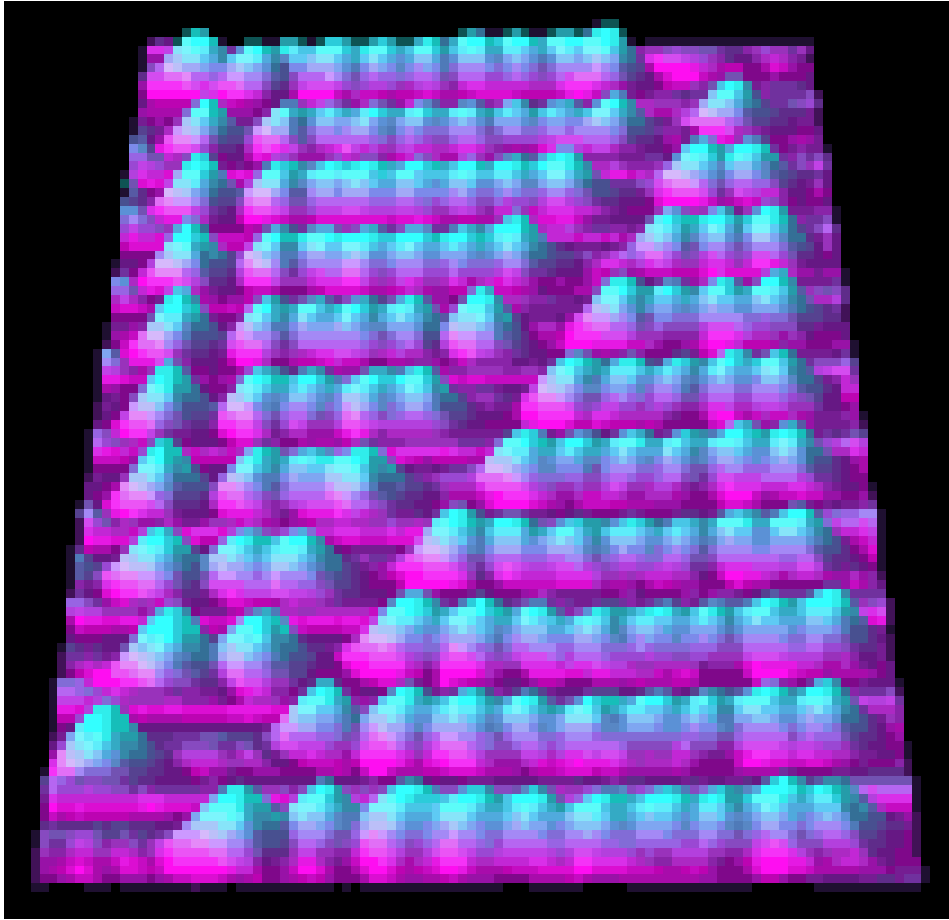
Le Nanotecnologie



Le Nanotecnologie

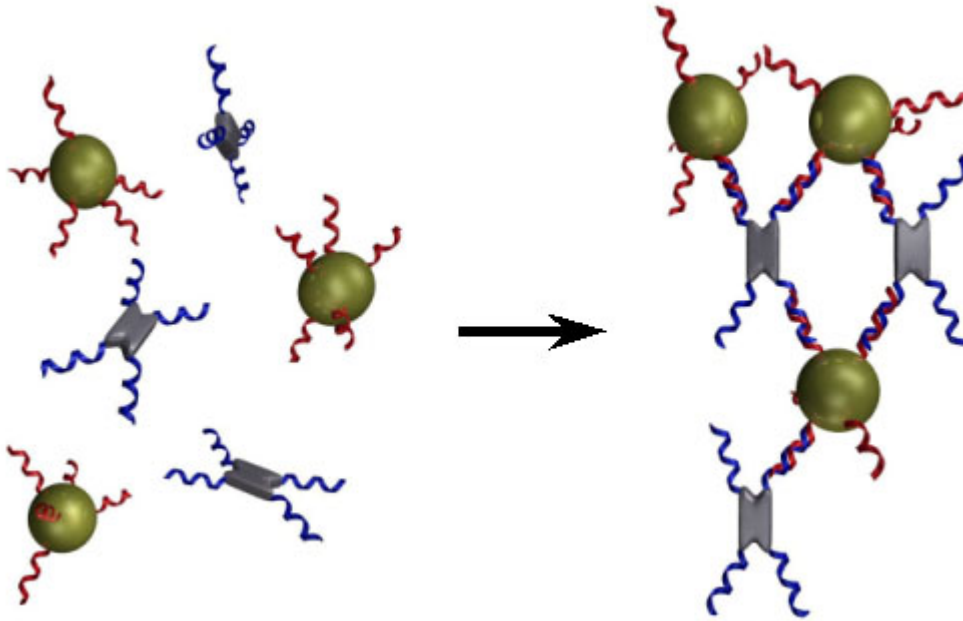


Le Nanotecnologie



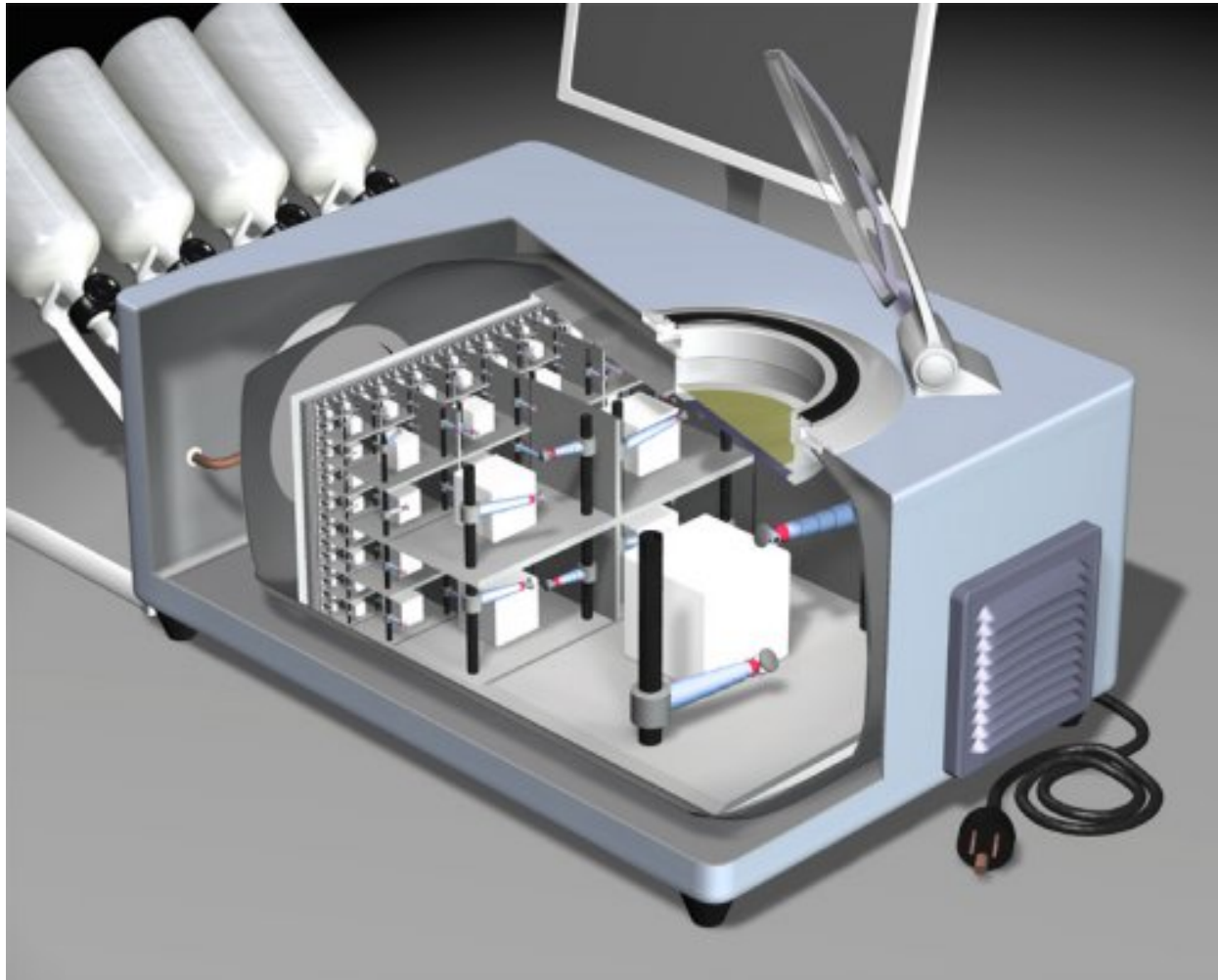
Le Nanotecnologie

AutoCostruzione

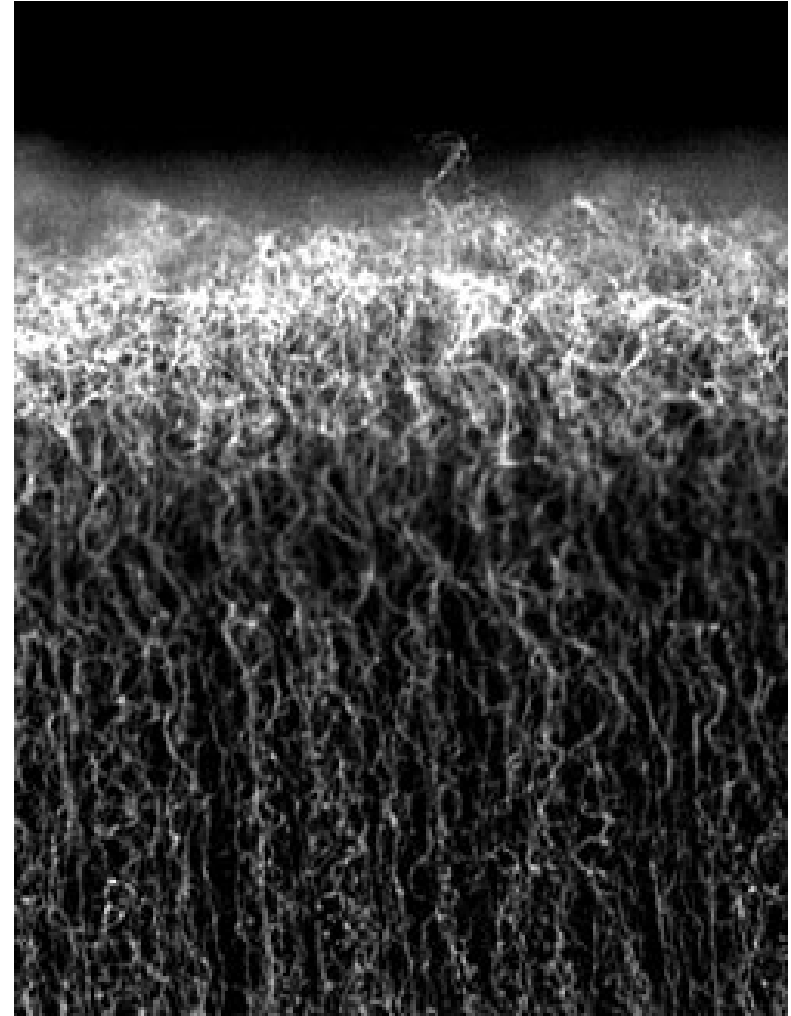
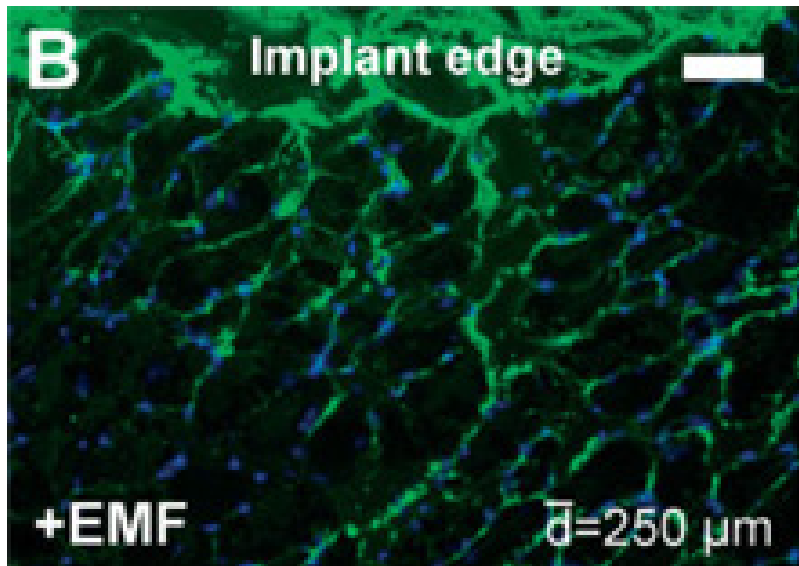
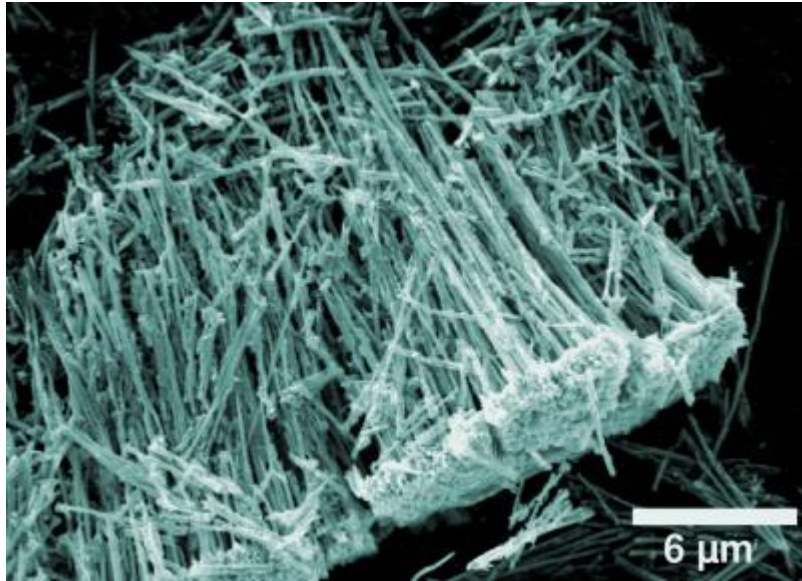


Le Nanotecnologie

Dal Micro al Macro

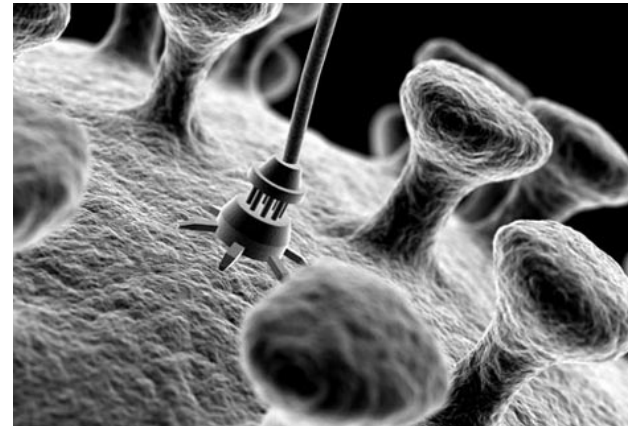
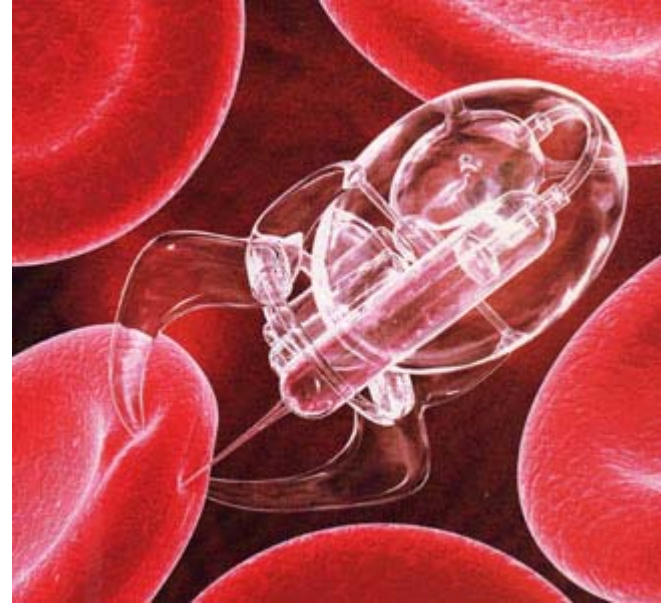
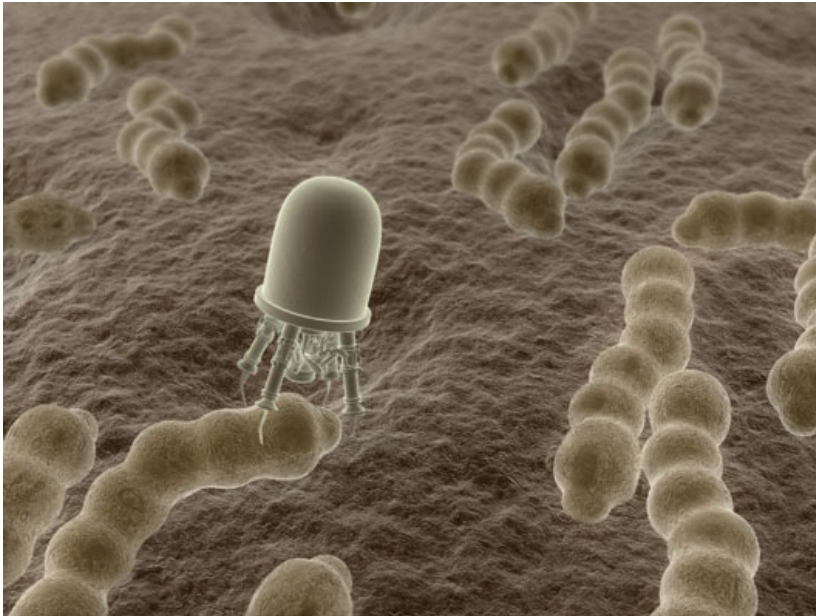


Le Nanotecnologie



Le Nanotecnologie

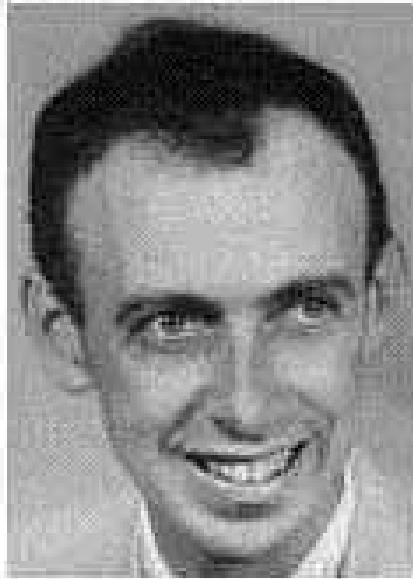
Fantascienza?



La doppia Elica



Francis Crick



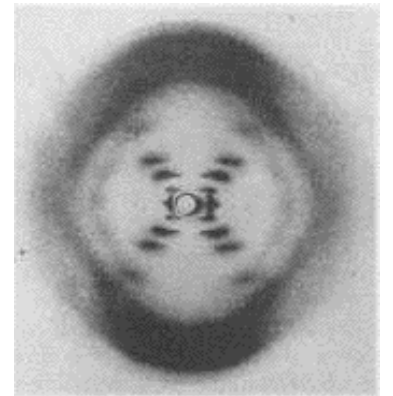
James Watson



Maurice Wilkins

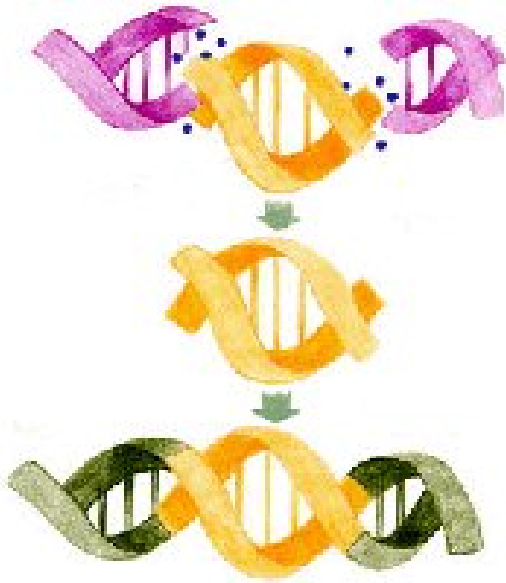


Rosalind Franklin



DNA come Fabbrica

Splicing

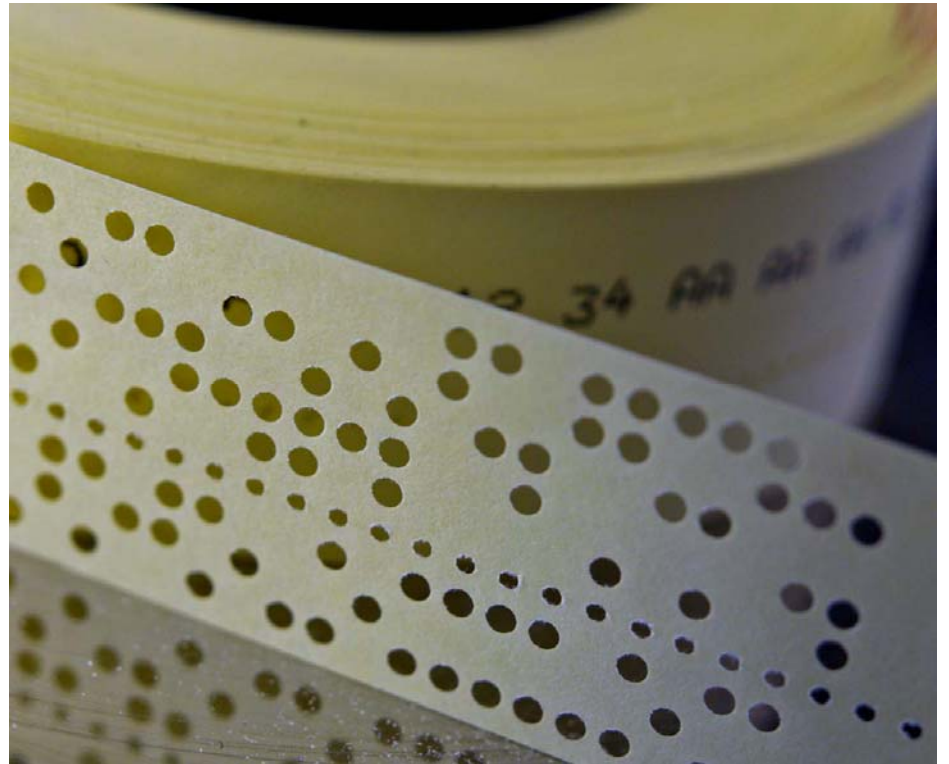


Istruzioni per la fabbricazione

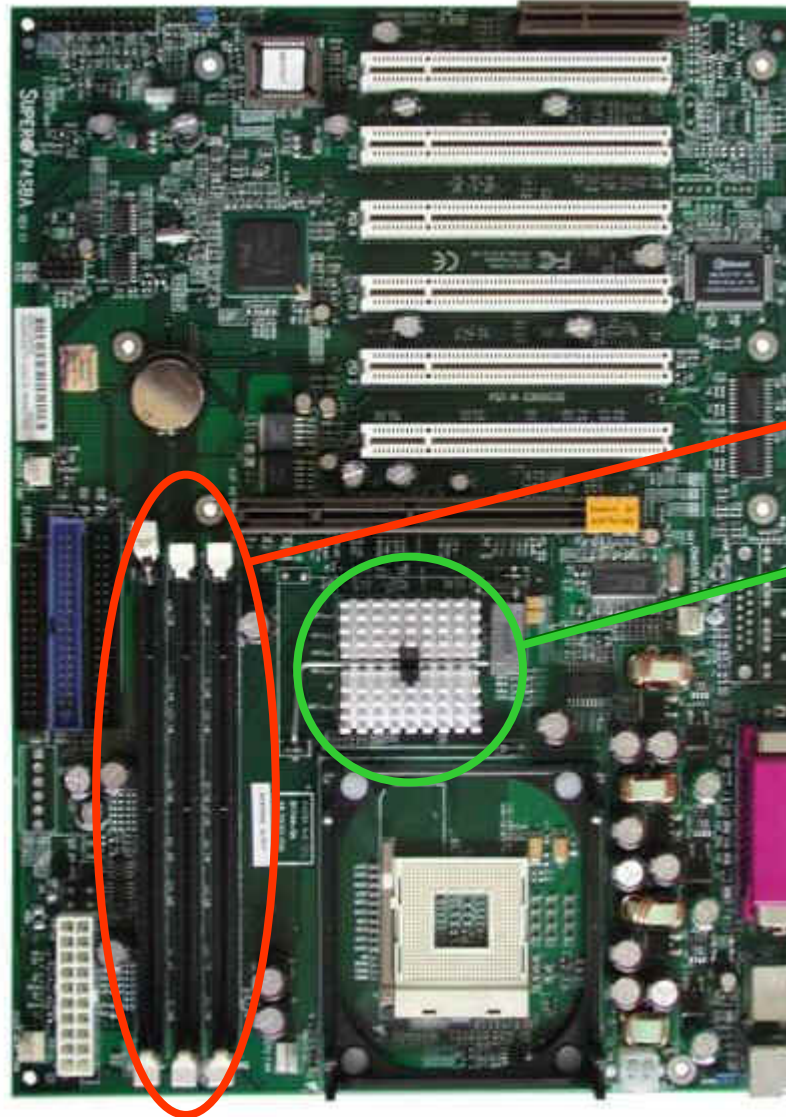
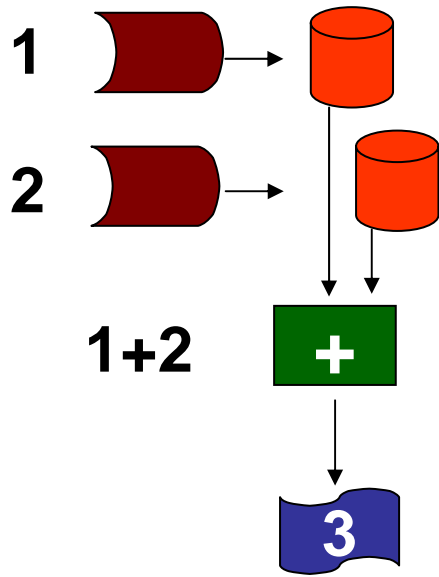
**Ada Byron
contessa di Lovelace**



Istruzioni per la fabbricazione



Software e Programmazione



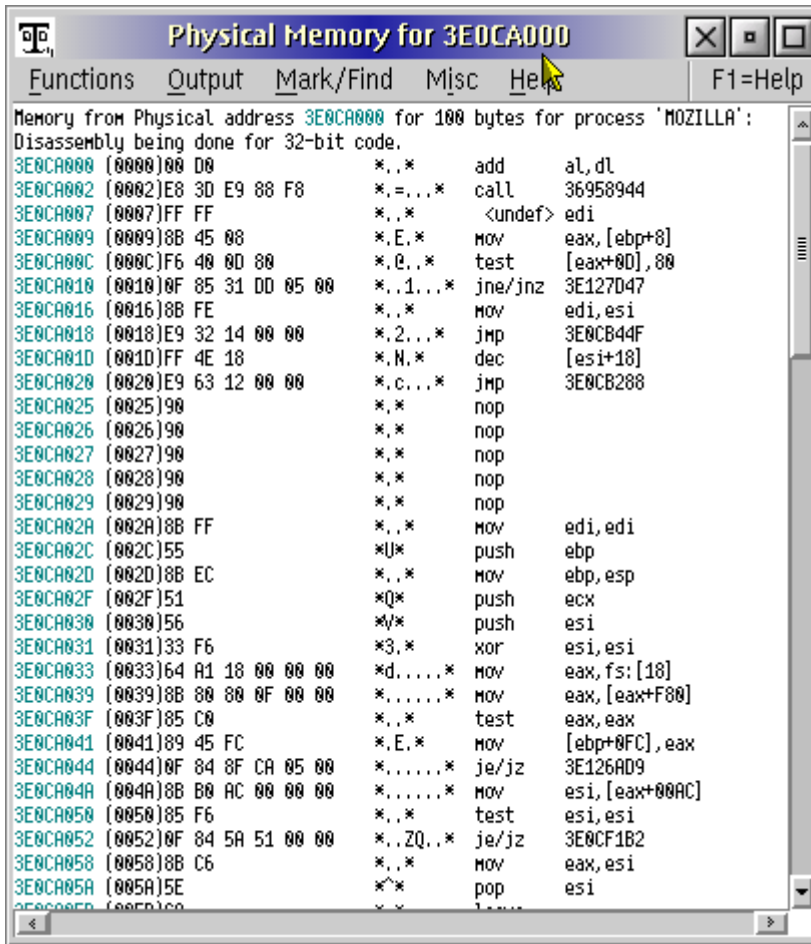
MEMORIA

CALCOLO

USCITA

INGRESSO

Software e Programmazione



The screenshot shows a debugger window titled "Physical Memory for 3E0CA000". The window displays assembly code for process "MOZILLA" starting at memory address 3E0CA000. The code includes various instructions such as add, call, mov, test, jne/jnz, jmp, dec, nop, push, and xor. The window has a menu bar with "Functions", "Output", "Mark/Find", "Misc", and "Help", and a toolbar with "F1=Help".

```
Physical Memory for 3E0CA000
Functions  Output  Mark/Find  Misc  Help  F1=Help
Memory from Physical address 3E0CA000 for 100 bytes for process 'MOZILLA':
Disassembly being done for 32-bit code.
3E0CA000 (0000)00 00      *,,*      add    al,dl
3E0CA002 (0002)E8 3D E9 88 F8  *,*,*,*  call  36958944
3E0CA007 (0007)FF FF      *,,*      <undef> edi
3E0CA009 (0009)8B 45 08      *,E,*    mov    eax,[ebp+8]
3E0CA00C (000C)F6 40 00 80    *,0,*,*  test  [eax+00],80
3E0CA010 (0010)0F 85 31 D0 05 00  *,,1,,,* jne/jnz 3E127D47
3E0CA016 (0016)8B FE      *,,*      mov    edi,esi
3E0CA018 (0018)E9 32 14 00 00    *,2,,,* jmp    3E0CB44F
3E0CA01D (001D)FF 4E 18      *,N,*    dec   [esi+18]
3E0CA020 (0020)E9 63 12 00 00    *,c,,,* jmp    3E0CB288
3E0CA025 (0025)90      *,*      nop
3E0CA026 (0026)90      *,*      nop
3E0CA027 (0027)90      *,*      nop
3E0CA028 (0028)90      *,*      nop
3E0CA029 (0029)90      *,*      nop
3E0CA02A (002A)8B FF      *,,*    mov    edi,edi
3E0CA02C (002C)55      *U*     push  ebp
3E0CA02D (002D)8B EC      *,,*    mov    ebp,esp
3E0CA02F (002F)51      *Q*     push  ecx
3E0CA030 (0030)56      *V*     push  esi
3E0CA031 (0031)33 F6      *3,*    xor   esi,esi
3E0CA033 (0033)64 A1 18 00 00 00  *d,*,*,* mov    eax,fs:[18]
3E0CA039 (0039)8B 80 80 0F 00 00  *,*,*,* mov    eax,[eax+F80]
3E0CA03F (003F)85 C0      *,,*    test  eax,eax
3E0CA041 (0041)89 45 FC      *,E,*    mov    [ebp+0FC],eax
3E0CA044 (0044)0F 84 8F CA 05 00  *,*,*,* je/jz  3E126AD9
3E0CA04A (004A)8B B0 AC 00 00 00  *,*,*,* mov    esi,[eax+00AC]
3E0CA050 (0050)85 F6      *,,*    test  esi,esi
3E0CA052 (0052)0F 84 5A 51 00 00  *,,ZQ,* je/jz  3E0CF1B2
3E0CA058 (0058)8B C6      *,,*    mov    eax,esi
3E0CA05A (005A)5E      *,*     pop   esi
3E0CA05B (005B)5E      *,*     pop   esi
```

Linguaggio Assembler

Software e Programmazione

```
class Apple:
    def __init__(self,type):
        self.type = type
    def __repr__(self):
        return self.type

appleList = [ Apple('golden delicious'),
               Apple('gala'),
               Apple('granny smith'),
               Apple('fuji'),
               Apple('red'),
               Apple('braeburn')]

print "appleList:",appleList
someApples=appleList[0:3]
print "someApples:",someApples
for x in someApples: appleList.remove(x)
print "appleList",appleList
```

-u:@-- AppleList.py All (17,27) (Python Pabbrev Abbrev)-----

```
import java.util.*;
class Apple {
    public String type = "";
    public Apple(String type){
        this.type = type;
    }
    public String toString(){
        return type;
    }
}

public class AppleList {
    public static void main(String[] args){
        List<Apple> appleList = new ArrayList<Apple>(
            Arrays.asList(
                new Apple("golden delicious"),
                new Apple("gala"),
                new Apple("granny smith"),
                new Apple("fuji"),
                new Apple("red"),
                new Apple("braeburn")));
        System.out.println("appleList: " + appleList);
        List<Apple> someApples = new ArrayList<Apple>(appleList.subList(0,3));
        System.out.println("someApples: " + someApples);
        appleList.removeAll(someApples);
        System.out.println("appleList: " + appleList);
    }
}
```

Linguaggio Java

Software e Programmazione

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
  <title>My first styled page</title>
</head>

<body>

<!-- Site navigation menu -->
<ul class="navbar">
  <li><a href="index.html">Home page</a>
  <li><a href="musings.html">Musings</a>
  <li><a href="town.html">My town</a>
  <li><a href="links.html">Links</a>
</ul>

<!-- Main content -->
<h1>My first styled page</h1>

<p>Welcome to my styled page!

<p>It lacks images, but at least it has style.
And it has links, even if they don't go
anywhere&hellip;

<p>There should be more here, but I don't know
what yet.
```

Linguaggio HTML

Software e Programmazione



FUTURE CENTRE



Grazie