



Guvernul
Romaniei

Proiect CAPACITATI

Modernizarea Departamentului de Fizica Moleculara si Biomoleculara



Institutul National de Cercetare-Dezvoltare pentru
Tehnologii Izotopice si Moleculare – Cluj Napoca

ANCS
Autoritatea Națională pentru Cercetare Științifică

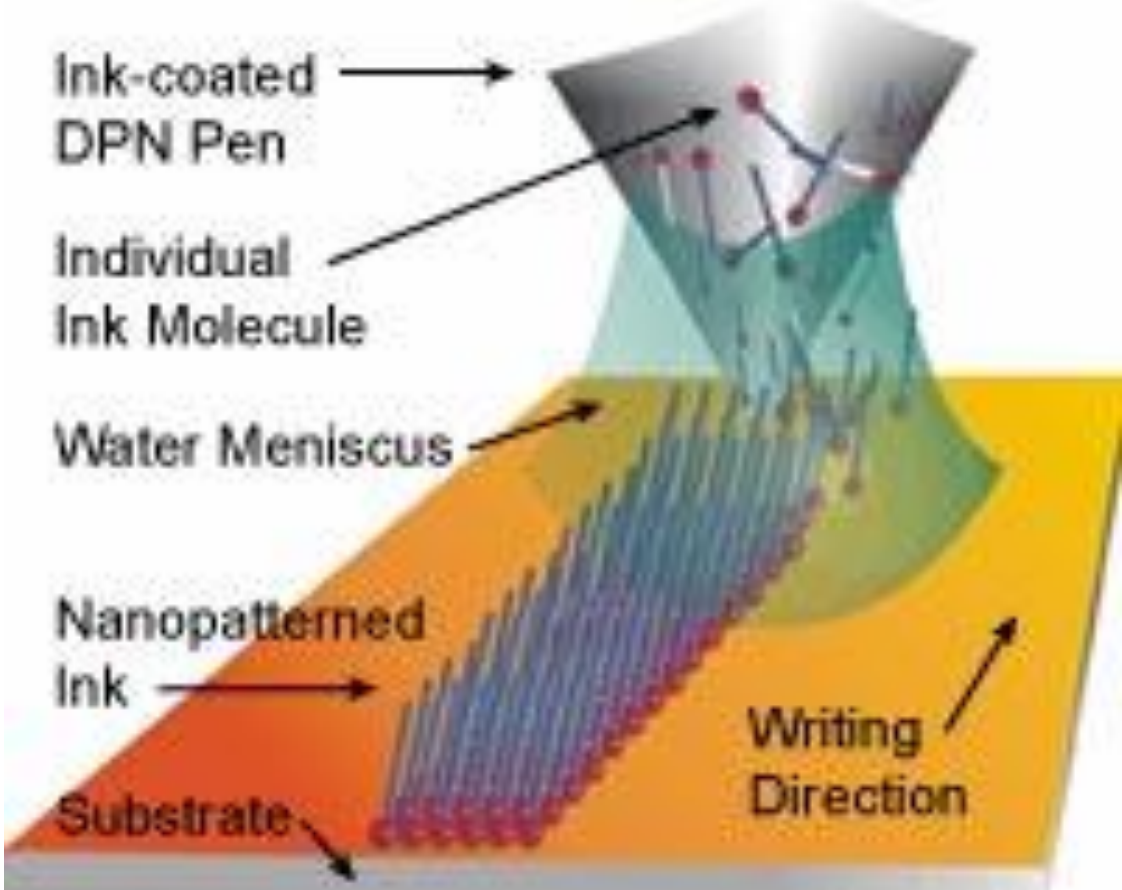
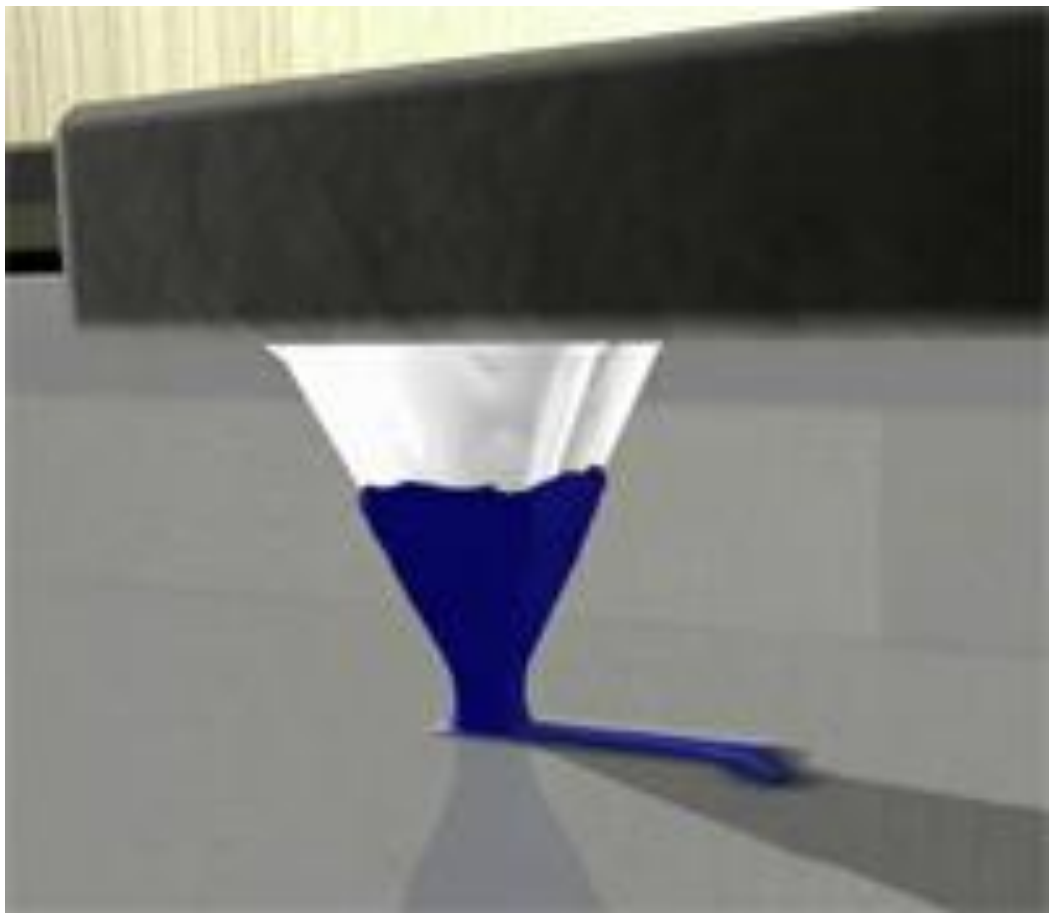
www.itim-cj.ro/mdfmolbio

Denumirea Investitiei :

Instalatie de Molecular Inkjet Printing

Valoarea estimata : 90 – 110 mii EURO
Data achizitionarii : August – Septembrie 2010

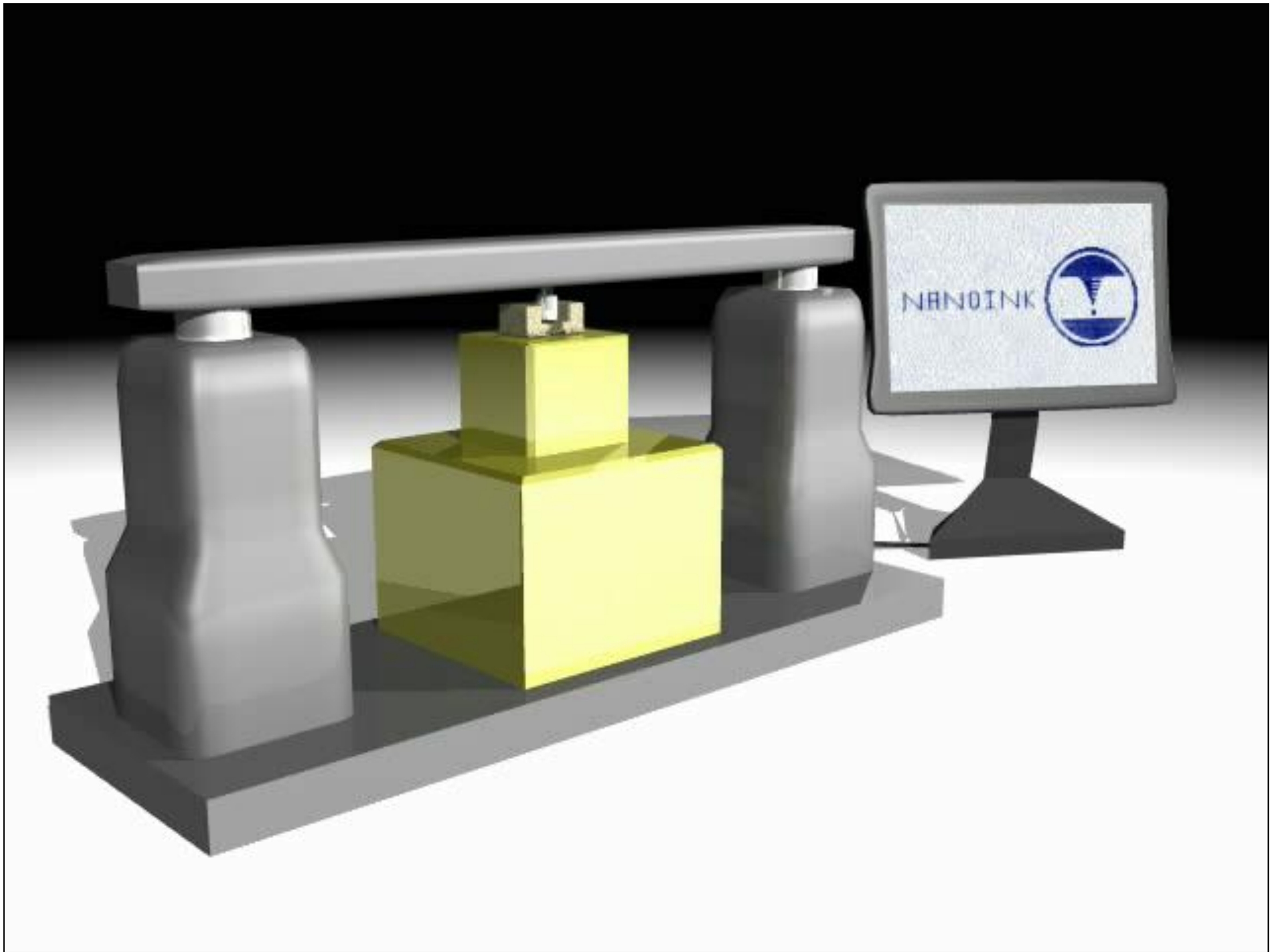
Performante Tehnice



**grosimea cernelii :
15-70nm**

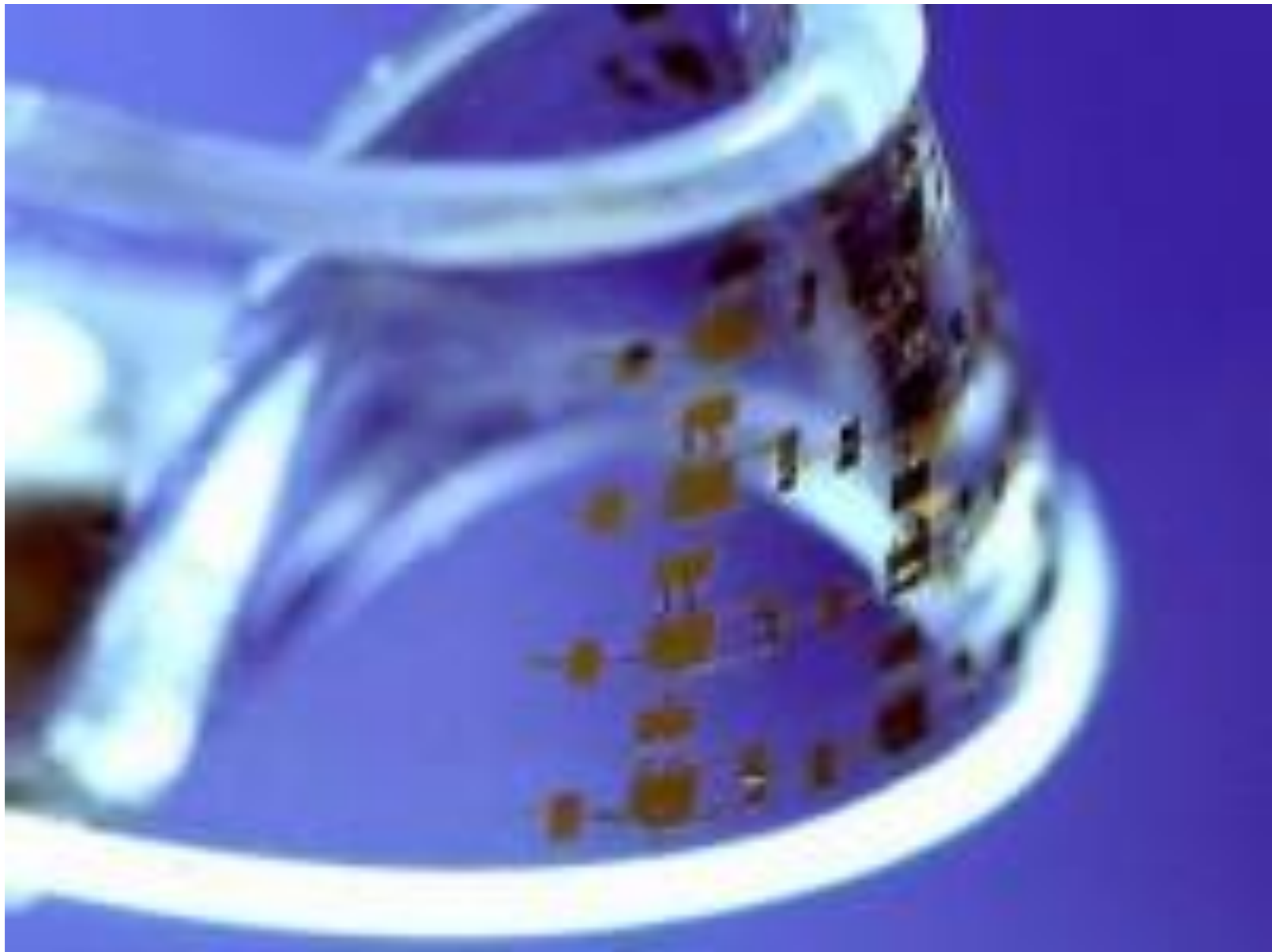
**varietate mare de
cerneluri si substraturi**

Ink	Substrate
Alkylthiols (e.g. ODT & MHA)	Au
Ferrocenylthiols	Au
Silazanes	SiO _x GaAs
Proteins	Au, SiO _x
Conjugated polymers	SiO _x
DNA	Au, SiO _x
Fluorescent dyes	SiO _x
Sols	SiO _x
Metal salts	Si, Ge
Colloidal particles	SiO _x
Alkynes	Si
Alkoxysilanes	SiO _x
ROMP materials	SiO _x



Aplicatii Practice

Circuite integrate deformabile



**Diode luminiscente organice pentru iluminat
si pentru realizarea de “hartie electronica”**



Ink	Substrate	Notes
Alkylthiols (e.g. ODT & MHA)	Au	15 nm resolution with sharp tips on single crystal surfaces, < 50 nm on polycrystalline surfaces
Ferrocenylthiols	Au	redox active nanostructures
Silazanes	SiO _x GaAs	patterning on oxides
Proteins	Au, SiO _x	both direct write and indirect assembly
Conjugated polymers	SiO _x	polymer deposition verified spectroscopically and electrochemically
DNA	Au, SiO _x	sensitive to humidity and tip-silanization conditions
Fluorescent dyes	SiO _x	luminescent patterns
Sols	SiO _x	solid-state features
Metal salts	Si, Ge	electrochemical and electroless deposition
Colloidal particles	SiO _x	viscous solution patterned from tip
Alkynes	Si	C-Si bond formation
Alkoxysilanes	SiO _x	humidity control important
ROMP materials	SiO _x	combinatorial polymer brush arrays