

Nanoparticles for Bio-medical applications

[Functionalisation of magnetic nanoparticles for applications in biomedicine](#), Berry and Curtis, 2003

[The preparation of magnetic nanoparticles for applications in biomedicine](#), Tartaj et al., 2003

Bio- or chemical sensors:

[Recent advances in biologically sensitive field-effect transistors \(BioFETs\); Schöning and Poghossianb; 2002](#); to be covered on 3-10-2004

[Microplate for chemical sensor research, Semancik et al., 2001](#); to be covered on 3-10-2004

[Nanowire Nanosensors for Highly Sensitive and Selective Detection of Biological and Chemical Species, Cui et al., 2001](#)

[Nanotube Molecular Wires as Chemical Sensors, Kong et al., 2000](#)

Bio-molecular motors:

[Kinesin motors and electrophoresis/dielectrophoresis \(Jia et al, 2004\)](#); this paper was discussed in details and is related to homework assigned.

[SU-8 and kinesin motors](#) (Moorjani et al., 2003)

[F1-ATPase attachment and force measurement](#) (Schmidt et al., 2004); this paper describe details about (His) tag and selective attachment.

[F1-ATPase attachment](#) (Bachand et al., 2001); this is a major milestone and covers nanoimprint technology.

Molecular Biology:

[Molecular Biology – Basic Reading Materials on Chemicals, DNA, RNA and Proteins](#)

[Molecular Biology of the Cell – Book On-Line](#)

[Note: To view the content in this book, here are recommended steps: a) read through the Full Contents; b) identify the right section with the right contents; c) type the title of the section into the search box and click 'Go'; d) find the link of the section (pay attention to the Chapter numbers and titles; e) click the link to get the reading materials.]

Nano-Scale Engineering:

[Observation of Three Growth Mechanisms in Self-Assembled Monolayers \(Carraro et al., PDF\)](#)

[Using Self-Assembly for the Fabrication of Nano-Scale Electronic and Photonic Devices \(Parviz et al., PDF\)](#)

[Environmental Technologies at Nano-Scale \(Masciangioli and Zhang, PDF\)](#)

BioMEMS papers:

[An Integrated Nanoliter DNA Analysis Device \(M. Burns et al.\)](#) (This was the device covered in the class)

[Microfabricated Devices for Genetic Diagnostics by \(MASTRANGELO et al.\)](#) (It is a great review paper providing supplementary information to the above paper; but it is a long paper though).

[Dielectrophoresis-Based Sample Handling in General-Purpose Programmable Diagnostic Instruments \(GASCOYNE and VYKOUKAL, 2003\)](#); this paper was discussed in details in the class).

[A controlled-release microchip \(Santini et al, 1999\)](#); this was the drug-delivery device discussed.

[Microsystems for Drug and Gene Delivery \(REED and LYE, 2003\)](#); part of this paper for microneedles was discussed.

General Interesting papers/presentations:

[A review paper on molecular shuttles \(Henry Hess and Viola Vogel at Univ. of Washington, PDF\)](#)

[Power Point Review on Nano-Technology \(M. C. Roco, National Science Foundation, PDF\)](#)

[MEMS Applications \(K. E. Petersen, Cepheid, PDF\)](#)

[MEMS and NEMS Packaging \(Y. C. Lee et al., PDF\)](#)