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materialstoday

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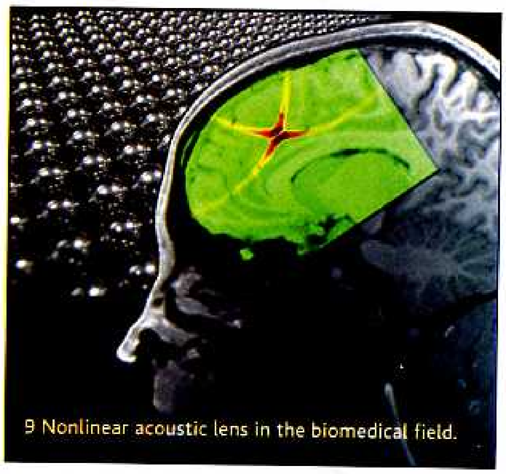
Updates

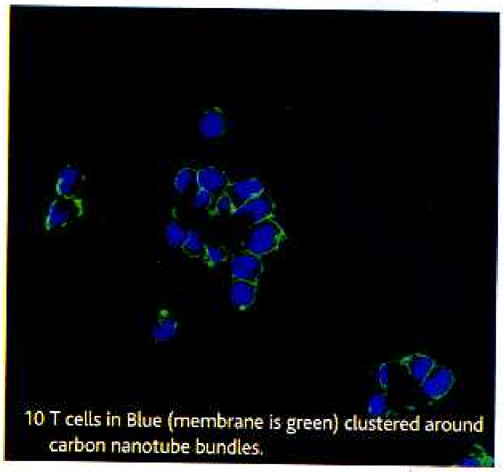
Cover Image

Biomimetic engineered structures with nanometer-scale hydrophobic bands act like native membrane proteins, tightly integrating into lipid bilayers. This design provides an intimate interface between inorganic materials and biological cells that could be used to access the cell's interior with little damage.

Courtesy of Professor Nicholas A. Melosh
Department of Materials Science and Engineering,
Stanford University. 476 Lomita Mall, Stanford CA 94305



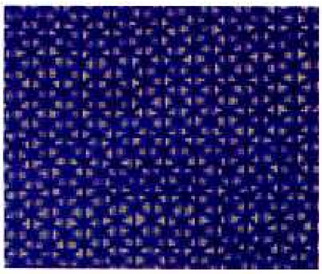
9 Nonlinear acoustic lens in the biomedical field.

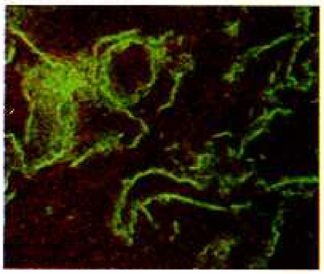


10 T cells in Blue (membrane is green) clustered around carbon nanotube bundles.

13 Development of a new breed of micro-supercapacitor

Surface science: What lies beneath?





Next issue

Materials Today **takes a look at nanotechnology and sensors**

Materials science breakthroughs in chemical sensors

For the past decade, Byrne et al. have been investigating strategies to develop ways to provide chemical sensing platforms capable of long-term deployment in remote locations.

Metal oxide nanowires as chemical sensors

It is almost a decade from the first presentation of metal oxide nanowires as chemical sensors. Significant advances have been made both in terms of preparation procedures and their integration into functional sensing devices.

Immunosensing using nanoparticles

Immunosensing technology is taking special advantages from the lastest developments in material science in general and particularly from the nanomaterials field.

Supramolecular porphyrin assemblies

Porphyrins show unique binding properties that are widely exploited in Nature to accomplish essential functions for life; the potential mimic of these functions with synthetic counterparts has provided the basis of many kind of chemical sensors.