

Abstract Submitted
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Applications of Nanotemplates and Nanoparticles in Nanomanufacturing and Nanomedicine¹ E. GULTEPE, D. NAGESHA, C. FANTASIA, S. LLOYD, S. TAI, S. SRIDHAR, eMRI, Dept. of Physics and Nanomedicine Consortium, Northeastern University, Boston, MA — Nanotemplates and nanoparticles have potential for use in the area of nanomanufacturing and biomedical applications. Using controlled anodization, nanoporous surface can be achieved on metals such as aluminum and titanium. We are using highly ordered nanoporous alumina as a template for drug delivery and to assemble nanoelements such as latex beads and super coiled DNA by the means of electrophoresis. We have developed a variety of platforms incorporating superparamagnetic iron oxide nanoparticles (SPIONs) for targeted delivery, magnetic hyperthermia and as a contrast agent for magnetic resonance imaging. The results of cell studies on these platforms will be discussed.

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