fast breaking papers - 2010

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Michael J. Sailor talks with *ScienceWatch.com* and answers a few questions about this month's Fast Breaking Paper Paper in the field of Materials Science.

Photo by Erika Kyte Walsh

Article Title: Biodegradable luminescent porous silicon nanoparticles for in vivo applications
Authors: Park, JH;Gu, L;von Maltzahn, G;Ruoslahti, E;Bhatia, SN;Sailor, MJ
Journal: NAT MATER, Volume: 8, Issue: 4, Page: 331-336, Year: APR 2009
* Univ Calif San Diego, Dept Chem & Biochem, La Jolla, CA 92093 USA.
* Univ Calif San Diego, Dept Chem & Biochem, La Jolla, CA 92093 USA.
(addresses have been truncated.)

SW: Why do you think your paper is highly cited?

It is the first biodegradable fluorescent (quantum dot) nanoparticle to safely image tumors and organs in live mice that could be used for cancer detection and treatment in humans.

SW: Would you summarize the significance of your paper in layman's terms?

It is the first intrinsically luminescent nanoparticle that was purposely designed to minimize toxic side effects. This new design meets a growing need for non-toxic alternatives that have a chance to make it into the clinic to treat human patients.

SW: Where do you see your research leading in the future?

The goal is to use the nanoparticles to chaperone the drug directly to the tumor, to release it into the tumor rather than other parts of the body.

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KEYWORDS: SEMICONDUCTOR QUANTUM DOTS; MAGNETIC NANOPARTICLES; CARBON NANOTUBES; CELLS; MICE; NANOCRYSTALS; FABRICATION; CLEARANC.

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