



the  
innovation  
society

August 2014

## Newsflash

### Issues

[Annotation by  
the Innovation  
Society](#)

[How do  
nanoparticles  
take effect?](#)

[Carcinogenicity  
of  
nanomaterials](#)

[Biodistribution  
of CNT in the  
body](#)

[First-time  
synthesis of  
uniform  
SWCNT](#)

[Smallest Swiss  
Cross - Made  
of 20 Singel  
Atoms](#)

### Dear reader

Welcome to the August edition of the newsflash by the Innovation Society.  
We wish you an inspiring reading and we are looking forward to receiving  
your feedback!

Kind regards  
The Innovation Society

---

### Annotations by the Innovation Society

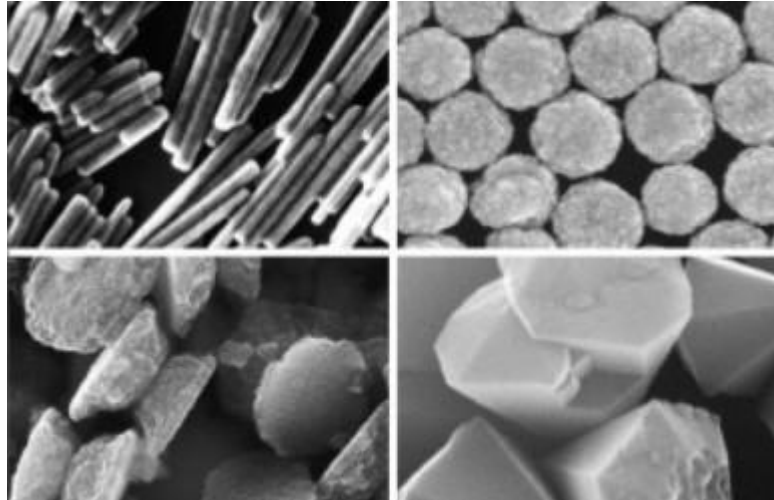
#### Regulation of nanomaterials

Nano-specific legislation faces head wind: Canada has announced that it will  
back OECD recommendations on the regulation of nanomaterials. The  
OECD recommends to adapt existing regulation to nanomaterials where  
necessary and, in principle, without the introduction of novel nano-specific  
regulation. The Nanotechnology Industry Association (NIA) criticises the idea  
of a European nano-register, stating that its benefits are unclear and that it  
would represent a large burden for authorities and industry.

#### Chances and risks of nanomaterials

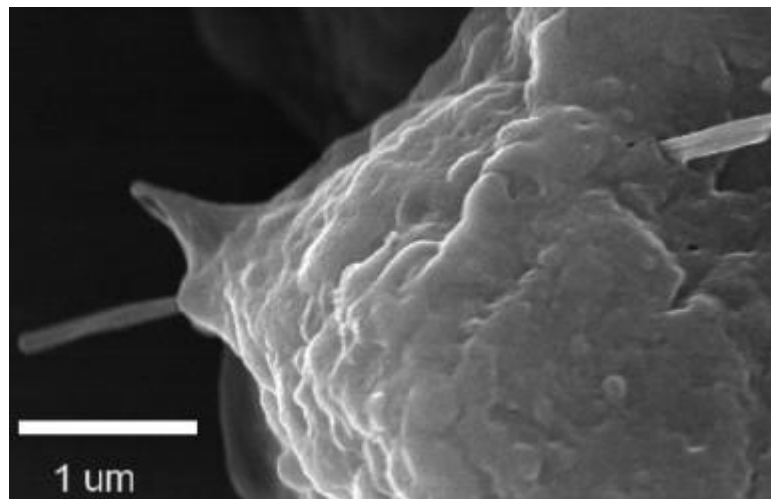
A comprehensive study on the use of nanotechnology in tyres has been  
published by the OECD. Among other things, the editors investigated the  
positive effects of nanomaterials on the life cycle of tyres.

## How do nanoparticles take effect?



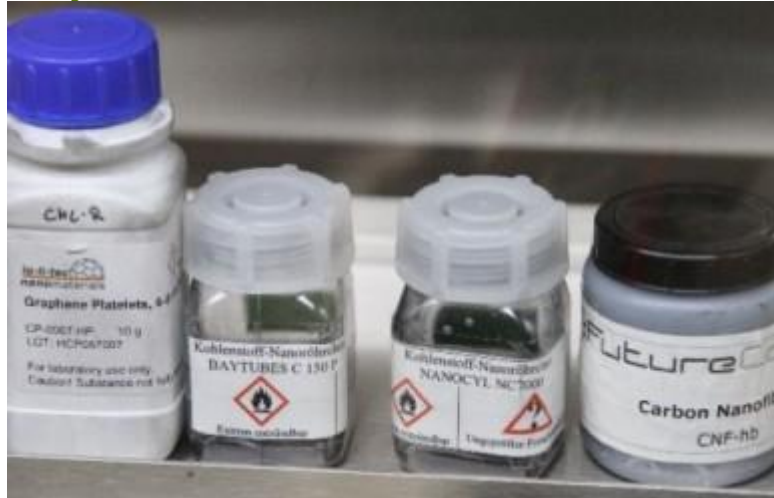
Scientists of the Friedrich Alexander University of Erlangen-Nürnberg (FAU) are working on a safety-check for the miniscule particles. Structures in nano-dimension help geckos to crawl up walls, let rain drops roll off lotus-leaves and turn sharks into agile hunters. Several years ago scientists have started to develop nanoparticles with stunning characteristics themselves. How artificially produced particles affect the human body is so far insufficiently understood. An interdisciplinary team of scientists at the FAU has recently engaged in answering these questions. [Read more \(in German\)](#)

## Carcinogenicity of nanomaterials



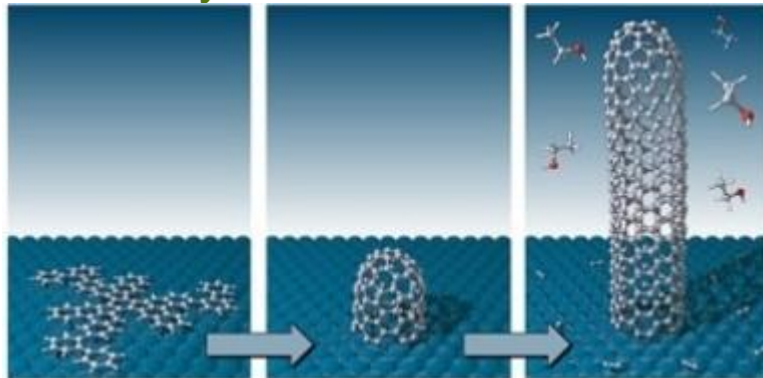
The German Federal Environment Agency (UBA) has published a review of available studies on the carcinogenicity and mutagenicity of nanomaterials. The review includes the assessment of more than 100 single studies using a relational database. Within the selected materials, nano-silver was found to be the most toxic. [Read more](#)

## Biodistribution of carbon nanotubes in the body



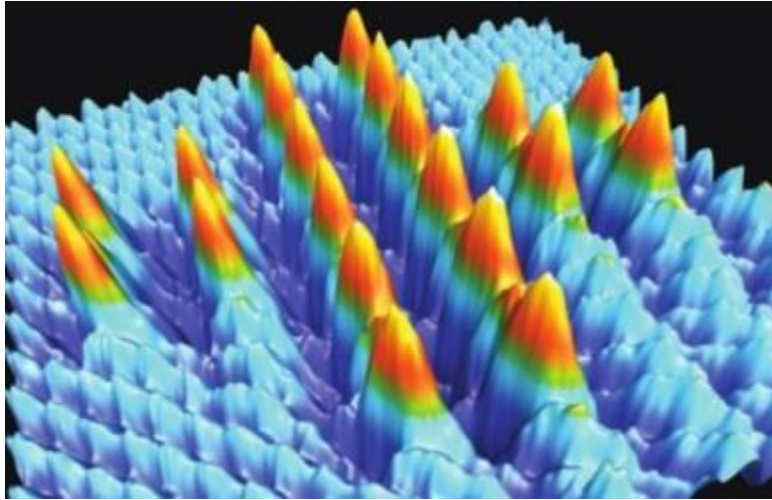
CEA (Commissariat à l'énergie atomique et aux énergies alternatives) and CNRS (Centre national de la recherche scientifique) researchers have looked at what happens to nanotubes after one year inside an animal. Studies in mice revealed that a very small percentage (0.75%) of the initial quantity of nanotubes inhaled crossed the pulmonary epithelial barrier and translocated to the liver, spleen, and bone marrow. Although these results cannot be extrapolated to humans, this work highlights the importance of developing ultrasensitive methods for assessing the behavior of nanoparticles in animals. [Read more](#)

## First-time synthesis of uniform SWCNT



For the first time, researchers at Empa and the Max Planck Institute for Solid State Research have succeeded in "growing" single-wall carbon nanotubes (CNT) with a single predefined structure. The CNTs "assembled themselves", as it were, out of tailor-made organic precursor molecules on a platinum surface. [Read more](#)

## Smallest Swiss Cross – Made of 20 Single Atoms



The manipulation of atoms has reached a new level: Physicists from the University of Basel were able to place 20 single atoms on a fully insulated surface at room temperature to form the smallest “Swiss cross”, thus taking a big step towards next generation atomic-scale storage devices. [Read more](#)

---

*Copyright © 2014 Die Innovationsgesellschaft mbH, All rights reserved.*  
Sie erhalten diese E-Mail, weil Sie in unserem Newsletter-Verteiler eingetragen sind. You are receiving this email because you are signed up for our newsletter.

**Contact:**

Die Innovationsgesellschaft mbH  
Lerchenfeldstr. 5  
St.Gallen 9014  
Switzerland

[Add us to your address book](#)

Phone: +41 71 278 02 04

Web: [www.innovationsgesellschaft.ch](http://www.innovationsgesellschaft.ch)

Facebook: <https://www.facebook.com/Innovationsgesellschaft>

Twitter: [https://twitter.com/IG\\_2014](https://twitter.com/IG_2014)

If you want to unsubscribe, please click [here](#). If you want to change your preferences, please click [here](#).