



S A F E N A N O



## 2007- A Big Year for SAFENANO

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This year has been a big one for nanotechnology health and safety. We've seen the continued build up of a scientific knowledge base in the area of nanotechnology risk issues, and a series of notable events reports and publications. It's also been SAFENANO's first year in existence. Therefore, as is tradition at this time of year what better way to finish SAFENANO's feature articles for the year than to take a look back at some of the nano highlights of 2007. I think the first of the big stories of 2007 for many was the publication of the Council for Science and Technology's Report - ['Nanosciences and Nanotechnologies - A Review of Government's Progress on its Policy Commitments'](#).

The report, released in March 2007, was a 2 year follow up to the Royal Society/Royal Academy of Engineering report ['Nanoscience and Nanotechnologies: opportunities and uncertainties'](#). As part of the review, CST considered: The extent to which Government has taken forward the commitments described in its response, the timelines and effectiveness of the actions taken by Government, and whether there have been significant developments in nanoscience/nanotechnology since February 2005 that raise new issues Government did not address in its response, but should now.

The main finding of the Council was that although the Government had made significant progress in certain areas, such as standards and metrology, and international engagement, there was a lack of sufficient support (funding) for research into the toxicology, health and environmental effects of nanomaterials. The CST review attracted widespread press coverage, and heated debate from government, industry and academia alike following submission of comments. Formal responses were made by a number of organisations. The [Nanotechnology Industries Association's response](#) strongly supported the CST's findings that the UK is losing the leading position and supported concerns over the polarization of Nanometrology and nanotoxicology in terms of Government funding. In addition, the need for establishment of a dedicated nanotechnology funding budget, and ring fencing in particular for lifecycle analysis and risk assessment of engineered nanoparticles was stressed. Very consistent with our views at SAFENANO.

It has to be said that the initial [Government's response](#) gave little indication that the aforementioned funding would be set up, preferring instead to emphasise a co-ordinated multi-agency approach with responsive funding from the Research councils. However, on a positive note, the Government response did mention that 'DTI is working with the Institute of Occupational Medicine to examine and investigate the



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likely industrial demand for an advisory service on nanotoxicology and for a toxicological testing service'. This, of course was referring to SAFENANO.

In April myself and Bryony Ross also took part in the [Nanotoxicology 2007](#) Conference in Venice. The conference was SAFENANO's first official outing, and as a keynote speaker I was able to present information about the initiative to the gathered delegates from all over the world. The conference organiser was Dr Lang Tran of IOM/SAFENANO, who provided us with '[View from the Top Table](#)' - an overview of the conference from the organiser's perspective as one of the first feature articles to appear on SAFENANO.org. In addition, Bryony documented the conference proceedings via



Venice, taken during the Nanotoxicology Conference, April 2007

[blog entries](#) and [photos](#) which were posted to the [SAFENANO community](#).

The conference coincided with the launch of a new journal [Nanotoxicology](#) published by Informa healthcare. The journal's editor is Professor Vicki Stone of Napier and SAFENANO. Nanotoxicology promises to be one of the key journals in this emerging area. The first volume contained four excellent state of the art reviews on toxicology, measurement, characterisation and cellular response.

April and May saw the closing dates of the first round of calls for [Framework 7](#). This had been preceded by a period of frenzied activity by European researchers, developing research ideas, recruiting teams of collaborators and preparing proposals. The IOM/SAFENANO team were involved in a number of proposals, and everybody involved worked very hard to ensure that they were of the highest quality possible. As a result, we were successful in most of the proposals in which we took part. At the last count, the IOM team are part of seven projects which are currently under negotiation with the European Commission. We expect that most of them will start in spring and summer of 2008 and we'll provide more information about them once proposals are complete.





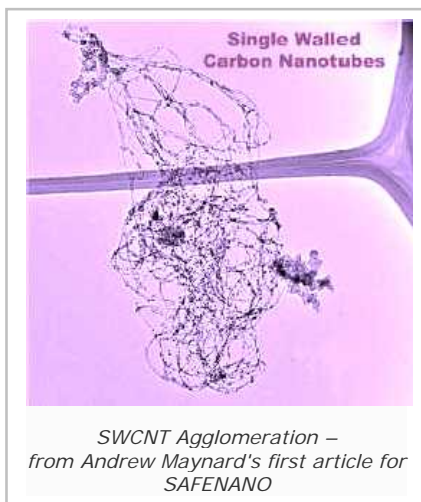
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May saw SAFENANO travel to [NanoMaterials '07](#) - the first conference hosted by [NanoCentral](#), a fellow MNT Nanotechnology Centre of Excellence. This was an excellent opportunity to explain SAFENANO to an international industry audience and gauge their needs in terms of information and support. The feedback we received at this conference was also critical in helping to shape SAFENANO services which was to be launched in the year. The conference was another success for the SAFENANO Initiative, and again Bryony documented proceedings through a [NanoMaterials '07 blog](#) and [photos](#) on the SAFENANO Community.

August was probably the most important month in SAFENANO's calendar year, with our official launch taking place on the 21st. Our [press release](#) stirred a lot of positive interest in the initiative, and [www.safenano.org](#) received over 150,000 hits in 2 weeks following its launch. Since then, the SAFENANO website and community have continued to grow, providing up to date news, features, discussions and guidance. I hope that the site is and will continue to be a valuable tool for those involved in nanotechnology, and that it will grow into an international platform for discussion and exchange of ideas.

August also saw publication of one of the highest profile reports that we were involved in this year. [REFNANO, the UK-led initiative on Reference Materials for Nanotechnology](#), was commissioned by the UK Department for Environment, Food and Rural Affairs (DEFRA) and brought together a team of opinion leaders from the UK toxicology, metrology and nanomaterials producer/user communities. IOM led the project, and the final report has received widespread praise throughout the nano community since its publication, with the Government citing it in a number of high profile scoping reports, and OECD using it as one of the key documents for reference in its own reference material initiative.



In October, the SAFENANO team took on a [new and valuable addition](#), when Dr Andrew Maynard of the Woodrow Wilson International Center for Scholars Project on Emerging Nanotechnologies joined us as a regular guest contributor to the site. Andrew has to date written an excellent [feature article on engineered nanomaterial exposure](#), and contributes regular thought provoking [blogs](#) to the SAFENANO Community. I am delighted that he was willing to participate, and grateful for his invaluable contribution to SAFENANO.

October also saw the launch of the [ResponsibleNanoCode](#), an initiative brought together by the Royal Society, Insight Investment and the [Nanotechnology Industries Association](#) (NIA) to explore the societal and economic impact of the technical, social



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and commercial uncertainties related to nanotechnologies. I was invited to become a member of the Working Group for this initiative, and have been involved in drafting the voluntary code of conduct for businesses involved in nanotechnology. The code was released for public consultation, and is now in the final stages of being edited to take into account feedback received. It is anticipated to be published around February 2008.

In November, myself, Bryony, Karen Galea and Sheila Groat of IOM completed work on a guidance document for the British Standards Institute (BSI). PD 6699-2 Good practice guide to safe handling and disposal of engineered nanoparticles, is part of the '[BSI Nano Nine](#)', a collection of documents being published by BSI covering nanotechnology terminology and guidance for the UK. Writing a good practise guide on a subject about which the risks are still not clear was a huge challenge, but the document has been well received by BSI, and will hopefully be instrumental in preventing unnecessary exposure to potentially harmful materials in the workplace. The Nano Nine are due for official publication in early 2008.

Early December saw the publication of the [UK Government's second nano risk report](#) . One again this report demonstrated that the Government has a plan, and they are sticking by it. Its clear that things have happened since the last report was published, but the rate of progress is slow, and it was difficult to identify a major important step forward in the report. Have a look at [Andrew's blog](#) on this for further comment and discussion.

December has also brought two final pieces of news to the SAFENANO team. The first was the news of our successful tenders to DEFRA for lead on two projects related to nanoparticle risk. 'An outline scoping study to determine whether high aspect ratio nanoparticles should raise the same concerns as do asbestos fibres.' (otherwise known as HARN), and 'A study to identify physicochemical factors controlling the capacity of nano-particles to penetrate cells of the respiratory epithelium, especially those of first contact on inhalation of the particles.' (aka Cell Pen) are being conducted in collaboration with Napier and Edinburgh Universities,

NPL and CSL. Both commence in the New Year, and are expected to reach completion at the end of May 2008.



The second piece of news that we were finally able to report this month was successful award of the contract for SAFENANO's second phase - [SAFENANO Scientific Services](#). Complementing the existing SAFENANO Information Service and Web Community, SAFENANO Scientific Services will provide a multidisciplinary approach to supporting the nanotechnology industry with the aim of helping manufacturers, suppliers and users



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collect the necessary data concerning their own materials and processes and design effective nano-safety solutions specifically for the individual client. Our partner in this area of the initiative is Napier University. More on SAFENANO Scientific Services is available from the [Services area](#) of safenano.org and the services will be formally launched in January.

Overall, when I reflect on the year is clear that things are happening. Many initiatives have begun or are moving forward, more research groups are active, more information concerning the toxicity of various types on nanomaterials is emerging on a case by case basis, and guidance is developing. But if I ask myself the question "what do we know now that we didn't know a year ago?" I'm struggling to find an adequate response. Have we really made significant steps forward over the last 12 months? I'd really welcome your thoughts on this so please contribute to [our thread](#) on the SAFENANO community.

So, what are the SAFENANO team hoping for in 2008? Well, personally I'd like to see the continuance of 2007's progress in Nanotechnology EHS, but under a properly planned and structures strategic funding programme. In addition, I'd really welcome continuance of the enthusiasm that Industry have started to show in the development of the Responsible NanoCode, and I'd especially like to see this transferred to constructive input into the Government's [Voluntary Reporting Scheme](#). Finally, I can only hope for another successful year for SAFENANO, and that implementation of our Scientific Services will be as beneficial to the nanotechnology community as we hope.

Merry Christmas one and all I wish you a safe and responsible 2008.

**Rob**