nature nanotechnology Vol.2 No.10 October 2007 www.nature.com/naturenanotechnology

The many faces of nanotech

A lot has happened in nanoscience and technology since *Nature Nanotechnology* was launched one year ago this month.

The past month has been a busy one 'behind the scenes' in the nanoworld, as the following selection of headlines shows: the Kavli Foundation announced details of its $1 million prize for nanoscience[1,2]; the European Union declared in a press release that it is the "world's largest public investor in nanotechnology"; and draft codes of conduct for responsible nanotechnology were released by the European Union[3] and also by a group in the UK that includes the Royal Society and the Nanotechnology Industries Association[4].

Researchers, meanwhile, have continued to report a non-stop stream of new results in journals — including *Nature Nanotechnology*, which celebrates its first birthday this month — in the usual broad range of fields stretching from fundamental physics to toxicology. This breadth is reflected in the papers featured on the web page that has been set up to mark our first anniversary[5]: these include nanowires that contain just a few atoms, electronic devices built from thousands of single-walled carbon nanotubes, and cerium oxide nanoparticles that can be used to treat eye disorders. In terms of citations, the leading two papers are both from the first issue of the journal — one on a nanotube-based superconducting device[6], the other a new scalable method for sorting nanotubes[7]. In terms of press coverage a recent paper about a new nanoprinting technique developed by IBM Zurich[8] has had the biggest impact.

Less impressive, however, has been the lack of adequate research into the health and environmental impact of nanoparticles. Unless governments and funding agencies address this problem urgently, there is still a real risk of a public backlash against nanotechnology. Over recent years it has become clear that the public knows relatively little about nanotechnology, and is not unduly worried about it. However, that is no excuse for the present lack of action, which has prompted Which? — an influential consumer organization in the UK — to issue a ten-point plan "warning the Government to listen to the advice of top scientists and make understanding nanotechnologies a top priority".

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The first-anniversary web page also includes non-peer-reviewed content from the 'front half' of the journal where, in addition to News & Views articles about the latest papers from *Nature Nanotechnology* and other journals, authors have discussed topics as diverse as public acceptance of nanotechnology[9] and the rather limited role played by Richard Feynman in the history of nanotechnology[10].

Back in the present, the Kavli Prize for Nanoscience is a noteworthy development because it emphasizes the importance of basic research in nanotechnology (the other two Kavli prizes will be for astrophysics and neuroscience). Moreover, with $1 million in prize money and the involvement of the Norwegian Academy of Sciences and Letters — Fred Kavli is a Norwegian physicist who made his fortune by supplying industrial sensors — it is clearly hoping to establish itself as Nobel prize for nanotechnology.

And so to this issue: one of the front-runners for the first Kavli Prize for Nanoscience must surely be Sumio Iijima, who discusses the discovery of carbon nanotubes and his views on research on page 590. Last month it was announced that Iijima had won one of the 2007 Balzan prizes — which are worth 500,000 Swiss Francs and are awarded in different fields every year — for his work on nanotubes. And as always, nanotubes are well represented in this issue: a new method for discriminating between different types of nanotubes is described on page 640, and page 593 carries a report on efforts to commercialize the nanotube 'supergrowth' process.

Finally, alert readers might have noticed that articles in this and previous issues of *Nature Nanotechnology*, unlike articles in many other publications, never start or finish by referring to Richard Feynman's 1959 lecture at CalTech. However, on this occasion there is just enough room at the bottom of this article to make an exception.

References

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