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**From nanostructures to outer space** *27 June 2007***Online photography exhibition reveals hidden beauty of engineering research**

Engineers may not often be celebrated for their artistic prowess, but a photographic competition at the University of Cambridge is revealing some of the hidden beauty that lies behind their work.

Spectacular images, ranging from microscopic nano-art to entire coastlines glimpsed from space, are being displayed online, following the Department of Engineering's annual photographic competition.

The event, now in its third year, is sponsored by Owlstone - a nanotechnology company, which was spun out of the Department's research. All of the Department's staff and students can enter the competition. The aim is to find the best images that highlight the research being undertaken by engineers, both in the lab and in the field.

This year's winning entry, "Earth from 32km", was taken from a space craft launched by a team of undergraduates from the Department of Engineering - Henry Hallam, Robert Fryers, Carl Morland, Daniel Strange and Iain Waugh. The students set themselves the goal of launching a rocket into space for less than £1000. Their spectacular winning image of the curvature of the Earth from the upper atmosphere resulted from an early trial using a high altitude helium balloon to launch their tiny payload, no bigger than a lunchbox. Packed with instrumentation, it flew to nearly four times the height of Everest before descending by parachute, taking photographs throughout the flight.

The photograph has so impressed staff within the Department of Engineering that the team have now been offered 25 hours of workshop time to develop their project further, in addition to the Owlstone prize.

Other entries that were highly commended by the panel of judges reveal the fantastic inner structures of everyday objects, offer glimpses into microscopic nanoworlds, or simply give a new, perhaps unusual perspective on the experiences of engineers working in the field. Highlights include:

Polymer Life by Amanda Wycherley: This detailed study shows the inner structure of flakes of plastic cut from an ordinary milk bottle. The structures are being studied as part of the Cambridge Zero Waste Challenge, which aims to meld together waste fabric and plastics to create a composite material that can then be used as insulation, creating a financial incentive for recycling.

NWs@Tate Modern by Cinzia Casiraghi: Taken with a scanning electron microscope, this image shows a drop of silicon nanowires dispersed in water. Like carbon nanotubes, these are the building

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blocks for nanodevices which are helping engineers to improve and miniaturise everyday electronic devices.

Fat Free Fibres by Kerstin Comley: An individual porcine fat cell pictured through a scanning electron micrograph. The technique is helping to show the microstructure of biological tissues and give insight into their mechanical properties.

Ripples On A Steel Ocean by Sam Jewell: A steel surface was melted by laser light and disturbed so that ripples formed in its surface. It then froze again instantaneously, freezing the ripples where they formed. This image was taken with a white light interferometry microscope.

Nano Art On Nanostage by Dr Yongging Fu: The image shows a silicon nanostructure created through the advanced technique of reactive ion etching. Nanodot agglomerates are perfectly balanced on a "nanostage".

All the images can be viewed on the Departmental website at <http://www.eng.cam.ac.uk/photocomp/2007> along with the winning and commended entries from previous years.

Notes for Editors:

1. Owlstone Nanotech's main product is a revolutionary dime-sized device that can be programmed to detect a wide range of chemical agents that may be present in extremely small quantities. Using leading-edge micro- and nano-fabrication techniques, Owlstone has created a complete chemical detection system that is one hundred times smaller and one thousand times cheaper than existing technology. (www.owlstonenanotech.com)

2. The Department of Engineering is the largest department in the University of Cambridge, representing approximately 10% of the University's activities by the majority of common metrics, and is one of Europe's largest integrated engineering departments. It achieves the highest standards in both research and teaching. Its international reputation attracts the best students, academics, sponsors and partners from around the world. More information about the Department and the latest news stories can be found at www.eng.cam.ac.uk. If you are interested in research collaborations, then please contact Philip Guildford, Director of Research, email: pg28@cam.ac.uk

3. Cambridge University Spaceflight was established by undergraduates in the Department of Engineering and is now working on a balloon launched rocket to travel even further into space. The latest news and details of their technology can be found at www.srcf.ucam.org/~cuspaceflight

Full-sized images can be provided by the Office of Communications on request.

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