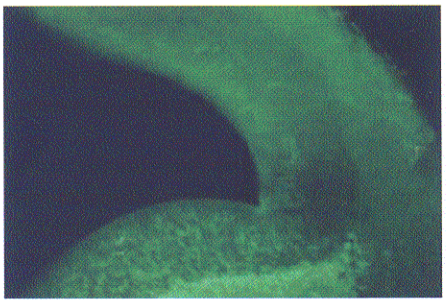
Nature's most downloaded

The Nature website routinely receives more than two million visits every week, but what are people looking at? The 'Nature top ten' (www.nature.com/nature/topten) compiles the most frequently downloaded articles in PDF format, to give readers an idea of current trends in interest.

Here we list the most downloaded PDF from each of the Nature journals between June and September this year. Of course, such lists do not rank scientific quality, but they may bring to your attention some new papers that you would otherwise have missed.

A genomic code for nucleosome positioning
Nature **442,** 772–778 (2006)
An interesting link is made between chromatin structure and the underlying DNA sequence. Asked why he thinks this work has been so popular with readers, Eran Segal, the lead author, says: "Clearly, interest in this paper has been high largely because so many aspects of chromatin biology are in the news on a regular basis — in part because of newly discovered links to diseases and stem-cell biology."



The first neurons of the human cerebral cortex
Nature Neurosci. **9,** 880–886 (2006)
A striking title to match striking observations in human brain development. "These observations were based on very rare specimens — indeed, very early abortions," says Annette Markus, Associate Editor of *Nature Neuroscience*. "These cells have not been described before in human or any experimental animal. They may indeed be unique to primates."

Room-temperature coherent coupling of single spins in diamond
Nature Phys. **2,** 408–413 (2006)
A possible route to practical quantum computation? "This is one of the papers I liked right from the beginning," said Andreas Trabesinger, Associate Editor at *Nature Physics*. "What is so promising about this approach is that you can look at these effects at room temperature."

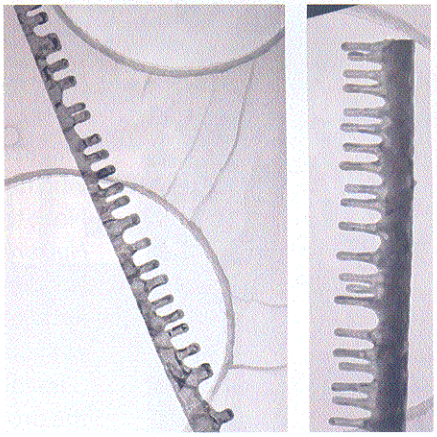
Cell-type-specific delivery of siRNAs with aptamer-siRNA chimeras
Nature Biotechnol. **24,** 1005–1015 (2006)
Cell-specific silencing of anti-apoptotic genes by RNA interference is exemplified in a mouse model of prostate cancer.

Graphene-based composite materials
Nature **442,** 282–286 (2006)
A celebrated member of the C_{60} (buckyball) and carbon-nanotube family gets a step closer to being used for practicable applications. "There has been lots of recent interest in the graphene system, but here it is not just a fun curiosity for physicists, but potentially a powerful ingredient in materials science," says Karl Ziemelis, *Nature*'s Chief Physical Sciences Editor.

A global analysis of cross-talk in a mammalian cellular signalling network
Nature Cell Biol. **8,** 571–580 (2006)
A global screen by the pairwise addition of surface-receptor ligands reveals novel interactions in a signalling network.

Epigenetic characterization of the early embryo with a chromatin immunoprecipitation protocol applicable to small cell populations
Nature Genet. **38,** 835–841 (2006)
A powerful new technique is established for the study of gene expression, which potentially requires four orders of magnitude fewer cells than conventional methods. Myles Axton, Chief Editor of *Nature Genetics*, says: " It takes about two years of getting oneself known to the researchers and discussing their experiments, to be trusted with a paper of this kind."

Small-molecule-based reversible reprogramming of cellular lifespan
Nature Chem. Biol. **2,** 369–374 (2006)
Magnetic nanoprobes help identify targets for resetting the cell's intrinsic 'senescence clock'.



Monocrystalline spinel nanotube fabrication based on the Kirkendall effect
Nature Mater. **5,** 627–631 (2006)
A new approach to the production of nanocrystal structures should prove useful for applications such as drug-delivery agents or high-efficiency catalysts.

Detection of pathogenic intestinal bacteria by Toll-like receptor 5 on intestinal CD11c$^+$ lamina propria cells
Nature Immunol. **7,** 868–874 (2006)
This paper reports the first genetic 'knockout' of Toll-like receptor 5 — an essential step in revealing the physiological role and importance of this receptor.

Cardiotoxicity of the cancer therapeutic agent imatinib mesylate
Nature Med. **12,** 908–916 (2006)
This paper finds that a celebrated drug used in the treatment of types of leukaemia may affect the health of heart muscle cells in human and animal models. "Not only did this article demonstrate some nice basic research, but the findings had a direct connection to a potential problem in the clinic," says Michael Basson, Associate Editor at *Nature Medicine*.

Chemical labelling strategies for cell biology
Nature Meth. **3,** 591–596 (2006)
A comprehensive and accessible review discusses the modifying of proteins with fluorescent probes.

Crystal structure and mechanism of human lysine-specific demethylase-1
Nature Struct. Mol. Biol. **13,** 626–632 (2006)
The high-resolution structure of a key player in epigenetic regulation is discovered.

James Ghadiali has just completed an internship at Nature Publishing Group.