



Electrons pass through graphene (left) with less resistance than through silicon, making the carbon sheet a good candidate for future chips.

mechanical effects previously thought to occur only in dense plasmas around black holes and neutron stars, or in powerful particle accelerators. One example is the Klein paradox, in which fast-moving particles pass straight through a seemingly impenetrable barrier.

Meanwhile Ruoff believes his composites might yet trump other applications. By chemically modifying the sheets within the polymer matrix and studying the resulting properties, he hopes to usher in a new class of graphene-based materials. He suggests that chemically tuned composites could be used as electrically conductive plastics in solar panels, for example, or to dissipate excess heat within computer parts: "The technology wizards will take this in various directions."

One thing researchers agree on is that we're likely to hear a lot more about graphene. "Nothing is a sure deal," says de Heer. "But nothing is an insurmountable problem. All the lights are still go." ■  
Richard Van Noorden

## It's legal: Italian researchers defend their work with embryonic stem cells

Embryonic stem-cell researchers in Italy have reacted strongly to comments made by a Catholic cardinal earlier this month that anyone involved in destroying human embryos — including scientists deriving stem cells for research — should be excommunicated.

Concerned at the press coverage that followed the cardinal's statements, which implied that human embryonic stem-cell research is illegal in Italy, scientists from six different groups held a conference in Rome on 14 July to defend and explain their work.

The organizers included Carlo Flamigni of the Institute of Clinical Obstetrics and Gynaecology in Bologna, Maurizio Mori, a bioethicist at the University of Turin, and Elena Cattaneo, a stem-cell researcher at the University of Milan.

They also sent an open letter to Italian prime minister Romano Prodi stating that their work is legal under Italian law, and asking the government to actively promote stem-cell work and guarantee the freedom to carry out such research. "Freedom of scientific research is a principle enshrined in our Constitution. We would like reality to reflect that," the letter says.

Cardinal Alfonso López Trujillo ignited controversy when he became the first top Vatican official to publicly support excommunication of those involved in destroying embryos to derive stem cells for research. The comments by Trujillo, who heads the Vatican's Pontifical Council

for the Family, were published in Italy's leading Catholic magazine *Famiglia Cristiana* on 2 July.

The Catholic Church opposes the destruction of embryos for any purpose, as it believes that life begins at conception. The researchers behind the Italian protest say they are worried that such comments could affect political support for embryonic stem-cell



Alfonso López Trujillo wants researchers excommunicated.

research in their strongly Catholic country.

Italy already has some of the world's most restrictive laws regarding embryo research, and does not allow embryos to be created or destroyed for research purposes. However, researchers are allowed to work on imported embryonic stem-cell lines.

Cattaneo, one of the organizers of the Rome conference and a Catholic herself, says she fears further restrictions and funding cuts for the already small number of Italian groups working on embryonic stem cells. "We will remain dependent on science done abroad," she says. "In the future, I'm not sure this will entitle our country to benefit from such research."

Luca Gianaroli, scientific director of the SISMER reproductive-medicine unit in Bologna, agrees that the Vatican has a powerful influence over Italian politicians. Italy's current stem-cell law, approved by parliament in 2004, was what the Vatican wanted, he says. "It was drafted by the Church." But he doesn't believe Trujillo's comments will trigger further cuts: "It's like adding water to an already full glass."

Trujillo may also have hoped to influence politicians beyond Italy — his comments have come as politicians in both the United States and the European Union debate the use of public funds for embryonic stem-cell research. A blocking minority of countries threatens to overturn the European Parliament's decision to include such work in its latest round of research funding. And as *Nature* went to press, the US Senate was preparing to vote on a bill that would loosen restrictions on federal funding for embryonic stem-cell research.

How much influence the statement will have is likely to depend on whether Pope Benedict XVI, whose words carry far more power than those of a cardinal, feels the same way.

Since Trujillo's comments, the Vatican has remained silent on the issue. It has not voiced support for Trujillo's stand, but — perhaps more importantly — nor has it said that Trujillo was speaking personally and not for the Church leadership. ■  
Jacopo Pasotti and Ned Stafford

AP



### JAVA HIT BY TSUNAMI AFTER EARLY WARNING

An alert was issued minutes before the wave struck.

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