molecular biologist at the University of Texas, Austin, and one of the state's expert witnesses in the case, maintains that the contamination of two controls does not invalidate the final findings.

Conque said in his January decision that those are issues that should be addressed at the trial. With proper cross-examination and expert testimony from the defense witnesses, the jury would not be unduly confused about the significance of the data. He did, however, forbid the prosecution from implying that the phylogenetic analysis can prove direct transmission. The prosecution agrees that the DNA analysis is only "a single piece of the puzzle."

Myers, who has assembled an HIV sequence database at Los Alamos and was one of the leading scientists in the Florida dentist case, says the defense experts have relevant and well-reasoned arguments, but he believes the judge made the correct decision. "I think the judge understood ... that there is sufficient evidence that the viruses are related. Why they are so related remains to be seen." He agrees with the defense experts, however, that there is some danger that the jury could be misled by the scientific luster of DNA analysis. "If additional evidence does not come forward," he says, "it would be unfortunate, because it would give undue emphasis to the technology."

Adds Myers: "The experts shouldn't carry the weight; the totality of the evidence should."

–Gretchen Vogel

ASTRONOMY

Spotting a Gamma Burst's Afterglow

Dutch and Italian astronomers are closing the net on the culprits in gamma-ray bursts, one of astronomy's greatest mysteries. In the early morning of Friday, 28 February, a burst of gamma rays erupted in the constellation Orion, triggering a dedicated detector on board the Italian-Dutch satellite Beppo-SAX. At the same time, one of the satellite's two Dutch wide-field x-ray cameras, which have a much sharper resolution than the gamma detector, caught the burst. That enabled scientists to pinpoint its position much more accurately, to an area much smaller than the full moon. A mere 8 hours later, controllers pointed the sensitive narrow-field x-ray cameras on the satellite at the suspect position, revealing a rapidly dimming x-ray source that had not been there before.

Burst sentinel. The Beppo-SAX satellite.

SAX had apparently caught the first glimpse ever of the object responsible for the original blast as it cooled off, detecting it just before it vanished. "Had the burst occurred over the weekend, we wouldn't have been able to respond so quickly," says John Heise of the Utrecht laboratory of the Space Research Organization Netherlands. Astronomers around the world are now aiming their instruments at the site of the x-ray object, hoping to pick up more clues to the nature of the event that generated the burst.

Since their discovery almost 30 years ago, over a thousand gamma-ray bursts have been observed at random positions in the sky, but astronomers do not have the faintest idea whether they originate near our Milky Way galaxy or in the far reaches of the universe. Because most gamma detectors have a very low positional accuracy, it has never been possible to link a burst to a known astronomical object such as a galaxy or star.

Beppo-SAX, named after Italian x-ray astronomer Giuseppe "Beppo" Occhialini together with the acronym for Satellite per Astronomia in Raggi-X, could change that, because it carries both a gamma-ray detector and wide-field x-ray cameras, says Heise, the x-ray camera project scientist. The x-ray cameras can quickly narrow down the position of any gamma-ray source that happens to be in their field of view. Launched last April, the satellite made its first simultaneous detection last fall (*Science*, 4 October 1996, p. 38).

This time, the cooling x-ray source spotted by the narrow-field cameras has given searchers an even more precise fix on the position of the burst. As a result, the announcement of the detection by Enrico Costa of Italy's Space Astrophysics Institute and his colleagues in a 1 March circular of the International Astronomical Union has caused a flurry of activity at observatories all over the world. Dale Frail of the National Radio Astronomy Observatory, for example, observed the burst region with the Very Large Array radio telescope near Socorro, New Mexico. In a 6 March circular, Frail reports that measurements on 1 and 4 March reveal a suspect radio source. But according to Heise, it is too early to say for sure whether this source is related to the gamma-ray burst.

To solve the gamma-ray burst mystery, astronomers realize they will probably have to bring down their response time to less than 2 hours after the gamma-ray detection, to catch the burster while it is still glowing brightly. "The last time, our response time was 16 hours," says Heise. "Now it's reduced to eight. We're making progress."

–Govert Schilling

Govert Schilling is an astronomy writer in Utrecht, the Netherlands.

NATIONAL ACADEMY

Court Invalidates Expert Panel Report

Three U.S. activist groups last week won a preliminary injunction in the first case testing a recent court ruling that advisory committees of the National Academy of Sciences (NAS) must conduct their business in public. A lower court judge in Washington, D.C., agreed with a claim by the New York–based Natural Resources Defense Council (NRDC) and two other organizations that because a panel of scientists formed to study the "scientific and technological readiness" of a planned $1.1 billion laser-fusion project had operated behind closed doors, the Department of Energy (DOE), which commissioned the report, could not use its findings.

The ruling has put DOE in the awkward position of saying it doesn't really need the report, which cost taxpayers $335,700. Ground breaking for the facility—the National Ignition Facility, or NIF—at Lawrence Livermore National Laboratory in Livermore, California, will proceed next month with or without the report, according to DOE. Coming on top of the earlier ruling, the decision also suggests that the much-cherished confidentiality of academy panels may be a thing of the past. The NAS argues that opening panel meetings would compromise its ability to give objective, scientific advice. "We're scratching our heads trying to figure out how in the world we could be an independent advisory body under those constraints," says NAS Executive Director William Colglazier.

The stage was set for the NRDC challenge in January, when the D.C. Circuit Court of Appeals agreed with an animal-rights group that the NAS was required to adhere to the Federal Advisory Committee Act (FACA), which states that panels formed to advise the government must open their proceedings to public scrutiny (*Science*, 17 January, p. 297). The academy has requested a rehearing of that decision.

Meanwhile, NIF opponents decided to try to use the January ruling to block the NIF report, which was due out in early March.