Court charges open split in Greek earthquake experts

London. Leading Earth scientists in Greece have set up a committee to defend the director of the Greek earthquake planning and protection agency against charges of breach of duty for allegedly disregarding warnings of last June's magnitude 6.1 earthquake which killed 25 people .

Dimitris Papanikolaou has been accused by Athens' public prosecutor, Kolio Kostas, of ignoring two separate warnings of the earthquake. One was issued by Panagyotis Varotsos, professor of solid-state physics at the University of Athens, and the other by Gerasimos Papadopoulos, an associate professor at the Geodynamic Institute of the National Observatory of Athens.

Varotsos used his controversial VAN method, in which an impending earthquake is forecast from a characteristic electrical signal in the ground (see *Nature* **375**, 617; 1995). Papadopoulos's claim was based on the view that an earlier earthquake in northwestern Greece would trigger another rupture within two months. He claims to have been ignored, despite sending in "an accurate prediction" of the time, magnitude and location of the June earthquake, which took place in western Greece.

After a preliminary three-month investigation, the prosecutor has ordered Papanikolaou, who has already had to defend himself once, to testify for a second time. Kostas will then decide if he needs to stand trial on the grounds that heeding the warnings — regardless of their scientific credibility — would have saved lives.

Papanikolaou says he "cannot believe" the decision to charge him, particularly as he is one of a small minority of seismologists in Greece who believe VAN may work. More importantly, he claims to have taken preventive action partly on Varotsos's advice, which turned out to be inaccurate.

"After the May earthquake, I consulted several colleagues, including Varotsos, and decided to alert emergency services in the Thessalia area of central Greece to prepare for a possible earthquake in June," he says. "It is not my fault that the earthquake took place 100 km south," in the seaside resort of Egion. "This is so ironic, as I am the one accused by colleagues of risking my credibility by helping Varotsos to set up some of his monitoring stations."

The prosecutor's decision has stunned the scientific community. Thirty Earth scientists — including the directors of three major geophysics laboratories — have agreed to testify later this month in Papanikolaou's defence. "This business is a tragedy," says George Stavrakakis, acting director of the Geodynamic Institute of the National Observatory of Athens. "Dimitris [Papanikolaou] cannot be held responsible when the whole seismological world believes that none of these methods is an acceptable method of earthquake prediction."

Varotsos claims that he has predicted the last three earthquakes in Greece using VAN. But seismologists remain sceptical, pointing out that the technique has not been properly peer-reviewed, and the physics behind the predictions remains unclear.

Both Papanikolaou and Stavrakakis are also angry at the public prosecutor's decision not to take evidence from senior colleagues during the investigation, apart from

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Greek tragedy: would listening to warnings of June's earthquake have saved lives?

Varotsos and Papadopoulos. "If he [the prosecutor] had listened to any one of us, he would have come to a different conclusion," says Stavrakakis.

The prosecutor's decision also puts Varotsos in a tight spot, as Papanikolaou was perhaps his closest supporter among seismologists. But, with both the public and scientific image of VAN at stake, Varotsos has no hesitation in declaring Kostas's decision as "a good initiative".

He says peer review "cannot go on forever" if lives are at risk, just as pharmaceutical companies are allowed to halt trials for AIDS drugs and rush them to market if patients show signs of living longer. "If anyone has doubts about VAN, they need to come out with concrete scientific facts. So far, I have predicted the last three big earthquakes in Greece, which, statistically, is a one-in-seven million chance of happening. This is no fluke, it is based on good science."

Later this month, Varotsos will meet the Greek Prime Minister, Andreas Papandreou, who is believed to have promised more funds for VAN research. The University of California at Berkeley will hold a three-day workshop on the subject on 10–12 October. **Ehsan Masood**

Royal Society plans genetics meeting with actuarial profession

London. Britain's Royal Society is planning to link up with the actuarial profession to explore ways in which mathematicians and epidemiologists can help the insurance industry to assess the health prospects of individuals on the basis of knowledge of their genetic make-up.

In particular, the society is planning a meeting next summer on genetic screening and the insurance industry, to be organized jointly with the Institute of Actuaries. Among other topics, the meeting will discuss "how genetic analysis could be used to identify potential morbidity and mortality in groups and individuals".

The proposed meeting was described last week by Sir Brian Jenkins, master of the Worshipful Company of Information Technologists, at the launch of an initiative known as the City, Science and Technology Dialogue, which is intended to stimulate closer links between Britain's research and investment communities.

In his speech, which was sponsored by the Department of Trade and Industry, Jenkins said that the main purpose of the new initiative was to make city investors more aware of the impact of science, engineering and technology on the health of the economy. Its ultimate aim is "to reinforce the position of the City of London as a knowledgeable capital and securities market for science-based companies here and abroad".

Jenkins described the proposed joint meeting of the Royal Society and the actuarial profession — whose participants, he said, will include researchers from the fields of applied mathematics, epidemiology and demography — as the type of joint research endeavour between scientists and investors that might be promoted under the new initiative.

Officials at the Institute of Actuaries, which is still discussing the detailed programme of the proposed meeting, say that its purpose would be to make actuaries aware of the way in which modern genetic discoveries — many based on the unravelling of the information contained in the human genome — will inevitably affect the way in which health risks are assessed.

Sir Michael Atiyah, the president of the Royal Society, and one of Britain's foremost mathematicians, said that the topic of the use of genetic screening by the insurance industry offered an important opportunity for collaboration between the scientific and financial communities. "Actuaries form a very logical body to partner," he says.

Indeed, Atiyah points out that London's role as both a major international centre for the insurance industry and a focal point for Britain's internationally recognized skills ▶