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Research on mass extinction

THE findings of the research into the world's worst mass extinction are to appear in the latest *Proceedings of the National Academy of Sciences* (PNAS) magazine, published on July 26.

"In our work we have found that at the time of the end-Permian extinction increased amounts of ultraviolet light filtered through the Earth's surface and caused damage to the DNA in plant spores. The results were abnormalities that prevented plant life from reproducing and a consequent collapse of terrestrial ecosystems," says OU's Dr Mark Sephton, who was part of an international research team of scientists from the Netherlands and the UK.

"The cause of the increased intensity of ultraviolet light was a disruption in the Earth's ozone shield. Massive volcanic activity that was taking place in Siberia at this time forced chlorine and bromine containing gases into the stratosphere where they catalytically destroyed ultraviolet-absorbing ozone gases. It was only when volcanic activity subsided, that life on earth could begin to recover from its biggest ever catastrophe," he concluded.

Dr Sephton believes the results heed an important warning for today's society: "We are bringing the effect of human activity on ozone depletion under control but the end-Permian example shows us that natural volcanic activity can cancel out all our good efforts".

The article *Environmental Mutagenesis during the End-Permian Ecological Crisis* which Dr Sephton co-wrote with Henk Visscher of Utrecht University in the Netherlands will be published on PNAS' Online.