

Did the solar system 'bounce' finish the dinosaurs?

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The sun's movement through the Milky Way regularly sends comets hurtling into the inner solar system – coinciding with mass life extinctions on earth, a new study claims.

Scientists at the Cardiff Centre for Astrobiology built a computer model of our solar system's movement and found that it “bounces” up and down through the plane of the galaxy. As we pass through the densest part of the plane, gravitational forces from the surrounding giant gas and dust clouds dislodge comets from their paths. The comets plunge into the solar system, some of them colliding with the earth.

The Cardiff team found that we pass through the galactic plane every 35 to 40 million years, increasing the chances of a comet collision tenfold. Evidence from craters on Earth also suggests we suffer more collisions approximately 36 million years. Professor William Napier, of the Cardiff Centre for Astrobiology, said: “It's a beautiful match between what we see on the ground and what is expected from the galactic record.”

The periods of comet bombardment also coincide with mass extinctions, such as that of the dinosaurs 65 million years ago. Our present position in the galaxy suggests we are now very close to another such period.

While the “bounce” effect may have been bad news for dinosaurs, it may also have helped life to spread. The scientists suggest the impact may have thrown debris containing micro-organisms out into space and across

the universe.

Centre director Professor Chandra Wickramasinghe said: “This is a seminal paper which places the comet-life interaction on a firm basis, and shows a mechanism by which life can be dispersed on a galactic scale.”

The paper, by Professor Napier and Dr Janaki Wickramasinghe, is to be published in the *Monthly Notices of the Royal Astronomical Society*.

Source: Cardiff University

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