

# Where does all the gold come from?

**P**recision analyses of some of the oldest rock samples on Earth by researchers at the University of Bristol has provided clear evidence that Earth's accessible reserves of precious metals are thanks to a bombardment of meteorites more than 200 million years after the Earth was formed. The research appears in *Nature*.

During the formation of the Earth, molten iron sank to its centre to make the core. This took with it the vast majority of the planet's precious metals – such as gold and platinum. In fact, there are enough precious metals in the core to cover the entire surface with a four metre thick layer.

The removal of gold to the core should leave the outer portion of the Earth bereft of bling. However, precious metals are tens to thousands of times more abundant in the Earth's silicate mantle than anticipated.

It has previously been argued that this serendipitous over-abundance results from a cataclysmic meteorite shower that hit the Earth after the core formed. The full load of meteorite gold was thus added to the mantle alone and not lost to the deep interior according to the study by researchers Matthias Willbold and Tim Elliott who analysed rocks from Greenland that are nearly four billion years old.

