Stardust lands in London: scientists look to comet for vital clues about Solar System

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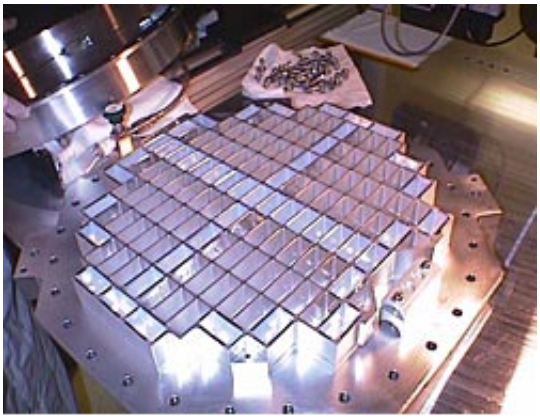

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Dust from a distant comet arrived in London today enabling UK scientists to be among the first to take a close look at the samples. The dust from comet Wild-2 was collected after a three billion mile round-trip by the NASA Stardust probe, which began in 1999.

The return of samples from the Stardust mission gives a small group of London scientists the opportunity to find out whether comets, mysterious objects that have puzzled humans for millennia, record the very earliest history of our Solar System. The samples will also enable them to investigate the theory that comets may have provided our planet with

some of the water and organic material that allowed life to develop. Although detailed analyses will take months or even years, it is possible that fundamental new data could be uncovered in a matter of hours.

Dr Phil Bland , a planetary scientist from Imperial College London's Department of Earth Sciences and Engineering, will be analysing the material using an X-ray instrument capable of analysing the mineral content of the tiny particles while they are still in the collector material, without damaging them.

"Comets contain a record of the earliest stages of Solar System formation. These tiny grains could be a big part of the puzzle of how planets formed from dust and gas. It's a resource that will keep us busy for a long time, but we might get answers to some questions for instance, whether comets contain minerals associated with water in a matter of hours", he said.

Dr Matt Genge , an expert on extraterrestrial dust who is also from the Department of Earth Sciences and Engineering, added: "I've looked at thousands of exterrestrial dust particles over the years but it's tremendously exciting to have bits of known comet quite literally at the tips of our fingers. Not since the Apollo days have we had the opportunity to look at material brought back from space. These few thousands of a gram of dust may tell us more about comets than the last 100 years of telescope observations."

The results of the London scientists' analysis of the comet dust will be published together with those from the rest of the international Preliminary Evaluation Team, later this year.

Scientists Anton Kearsley and Gretchen Benedix at the Natural History Museum complete the London NASA team who will be analysing the samples.

Source: Imperial College London