



## University lecturer investigates Astrophysics X-file The Truth is out there!

Dr Robert Walsh, a senior lecturer in the Centre for Astrophysics at the University of Central Lancashire, has been awarded a prestigious Research Fellowship by the Leverhulme Trust. The award has a value of nearly £20,000 and will enable Dr. Walsh to conduct research in Solar Astrophysics, concentrating on the heating of the Sun's atmosphere.

Dr Walsh's solar physics' research centres on a long-running solar mystery about the halo of electrified gases that surround the Sun, called the corona. While the light surface from the Sun, visible from the Earth, has a temperature of 6000 degrees, the corona (the crown of light we see around the moon at a total eclipse) is at a temperature of two million degrees.

"The problem is like an Astrophysics X-file! It is totally counter intuitive that the Sun's temperature should rise as you move away from the surface," Walsh explains. "It is like walking away from a fire and suddenly hitting a hotspot, thousands of times hotter than the fire itself!"

Using the latest space-based solar observatories along with sophisticated computer models, Walsh believes that the Sun's strong magnetic field is the culprit behind this unusual "coronal heating problem".

"I believe the research that will be undertaken in this Leverhulme Fellowship will show that the Sun's strong magnetic field can carry solar waves upwards from the bubbling solar surface. Then these waves dump their energy in the corona, like ordinary waves crashing on a beach. Also, this solar magnetic field can get twisted up like an elastic band. Eventually the tension gets too great and the magnetic field can "break", releasing huge amounts of violent energy, heating the electrified gases."

In December 2000, Robert was given the title of "Scientist of the New Century", after delivering an award-winning lecture at the Royal Institution of Great Britain in London.

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**Note to Editors:**

1. Dr Walsh's project is entitled "The Enigma of Solar Coronal Heating"
2. The Leverhulme Trust Research Fellowship last for two years. Out of 500 applications, only 140 awards have been given. Awards vary in value, with the maximum amount being £20,000
3. Dr Walsh can be contacted on tel: 01772 893557