

# A day in the life of a Solar Physicist

A typical day? Well that depends! My job consists of several aspects. The first and main one is research. For that I make use of spacecraft and ground-based observatory datasets to try and understand explosions on the Sun. This involves a lot of computing work, and also much collaboration internationally.

All of our space missions are international collaborations. Our main hardware partners are in Japan and the US.

Ground-based observatories are all over the world from Poland to China to Argentina. We make use of the internet to get access to many of these datasets, but also have opportunities to meet with people from around the world, design observing campaigns, and help design new spacecraft in the future.

Another aspect in my job is teaching. I lecture to first year undergraduates in astronomy. This is a lot of fun, as it is an interesting subject to teach, and many students have already tried their hand at astronomy to some level. I also supervise PhD students and am the graduate tutor for our department. Graduate level teaching is very different as the aim is for each student to leave as an independent and confident researcher. The interaction between 'teacher' and student is different from that at undergraduate level as it concerns research: the answers are never known in advance so new territory is always being explored.

The final part of my job involves space mission work. I am the project scientist for the UK/Japan/US mission, Solar-B, that will be launched in August 2006. This involves ensuring that the instrument design will fulfil the science goals.

As with many other parts of my job, there is travelling involved to meet with collaborators in Japan and the US – and following the launch I hope to spend an extended period in Japan where the spacecraft operations will take place.

The other project with which I'm involved is Solar Orbiter. It is in its infancy, but is expected to be launched by ESA in 2015 and is a mission to orbit the Sun. There are a lot of technical challenges for a mission such as this, and I am working with top-class engineers to ensure that we have a suitable instrument design and safe technology to successfully carry out this mission.

This work is being done in collaboration with other European colleagues from Belgium, France, and Germany.

**Louise Harra**

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project scientist  
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*Louise Harra at work analysing solar data at her computer. She graduated with a PhD in physics in 1993 from Queen's University, Belfast. She is now a reader in solar physics at University College London.*