

# A day in the life of an Astronomer

My day usually begins early, so I can be in the office ahead of the traffic. I check the latest papers which have been published on the astro-ph web listings and download the ones of most interest to me. My research area is in gamma-ray bursts, which is a very hot topic in astrophysics. There are reports of new discoveries almost every day. The bursts are tremendous explosions which we can detect even to the edge of the visible universe.

A career as an astronomer is not for someone who likes the same routine every day (or night). This morning, I need to finalise a proposal I am writing with colleagues, to get observing time on an orbiting telescope, which can detect gamma-ray bursts. There is tough competition to get such data, so I need to make a strong scientific case, backed up by plenty of painstaking research and detailed calculations to show that the instrument has the capability to make the measurements we need.

Although most of my data comes from orbiting satellites, I also make observations from the ground using optical telescopes. A trip to a telescope is fun but exhausting since it involves staying up all night every night for about a week. A plentiful supply of sugary snacks is essential to keep the brain alert at 3am. With large telescopes there are often technical problems, which need to be dealt with on the fly, since there are usually intense time pressures to make as many observations as possible during the observing run.

After working on my proposal for a couple of hours, I need a break and go up to the research lab to see how the postgraduate students are getting on. Two of my students are building a robotic telescope, called Watcher, in South Africa. This will be able to operate automatically and move very quickly around the sky to detect gamma-ray bursts at visible wavelengths. It is a very exciting, but demanding, project and there are always unforeseen issues to be discussed and solved within the team. Today, we are planning our upcoming trip to South Africa to get the system fully operational.

After lunch with colleagues, I look over my lecture notes for my 1st year astronomy class in the afternoon. Preparing course materials takes a long time and I have already prepared this lecture well in advance. Today's topics are neutron stars and black holes. It's wonderful to teach the subject which is closest to my research interests. This course is open to all students and we usually end up having discussions about life, the universe and everything.

After class, I bump into a colleague on the corridor and we end up having a lengthy conversation about how to ensure that our 1st year students really understand the difficult concepts they encounter in physics. Then it's time to put the finishing touches to my proposal before heading home, thinking about clear skies and maybe setting up my telescope in the back garden for some star-gazing. But not before watching the Simpsons with the family!

**Lorraine Hanlon**

*'My research area is in gamma-ray bursts, tremendous explosions, which we can detect even to the edge of the universe.'*



Lorraine Hanlon at the 1 metre reflector telescope in Calar Alto, Southern Spain. Lorraine graduated in experimental physics and did her PhD research in astrophysics at the European Space Agency in the Netherlands. She is currently a senior lecturer in the School of Physics at UCD.