A day in the life of a Solar Thermal Research Physicist

I usually arrive into work around 8am; check my emails and then it's down to work proper. I should explain I work in the R&D department of Thermomax Limited, a manufacturer of evacuated solar collectors. Today I've got a new prototype collector to test under the solar simulator. The simulator allows me to measure a collector's performance relatively quickly, which is very useful as the weather conditions in Northern Ireland are not always favourable for outside testing. As the collector was mounted onto the test rig the previous day, it's just a matter of switching on the test lights and analysing the data. This test takes approximately two hours during which time I check on material specifications relating to the prototype.

In general, though, my day-to-day duties are somewhat varied. Some days I'll be modelling the performance of a solar thermal collector, presenting a paper at a conference or even fabricating some components in the workshop.

For the rest of the morning I'm in correspondence with a partner at Athens agricultural university. For this project we designed a 240m^2 collector field for driving a Rankine cycle system for saltwater desalination by reverse osmosis. I'm really just checking in, getting an update on the project and answering any technical queries they may have. The objective is to provide farming quality/drinking water to communities on the remote Greek islands where freshwater is an expensive and limited commodity. The system is about to go live shortly and it should be quite exciting when the results start coming in. You can check out the site at http://rosolar.aua.gr/

In the afternoon a colleague and I drive up to the Centre for Sustainable Technologies at the University of Ulster's Jordanstown Campus. We're interviewing potential students of a joint PhD studentship position between Thermomax and UUJ characterising the performance of collectors with optimised solar exposure. Initially we discuss with the project head what form the interview will take and what questions will be asked of the candidate. This process takes around two hours before we return to the factory.

Back at my desk I prepare for a meeting I have tomorrow with a company that develops thin-film technologies. I read the report they provided and prepare some questions and comments about their process.

And that's the end of another day, I tidy up any loose ends I may have and head home.

Tommy Williamson

'The objective is to provide drinking water to communities on the remote Greek islands where freshwater is an expensive and limited commodity.'

Tommy graduated with a BSc (Hons) in Applied Physics 1996, gained a MSc in Opto-electronics 1997 and a PhD in 2001. He is pictured in front of the new direct-flow solar thermal collector by Thermomax, which was presented with the IF Design Award 2005.