

A day in the life of a **Physics Lecturer**

Today will be very busy. Between giving lectures in Cork Institute of Technology and conducting research in Tyndall National Institute I have to make sure I start off in the right place each morning - juggling two locations means that my 2GB memory stick is the most important tool to have with me each day. Today, I'll concentrate on lecturing in the morning. Then, weather dependent, I'll hop on my bike and head into Cork city to meet with my team of researchers.

I have a 9am start with students on the Applied Physics and Instrumentation degree. Today's topic is on modelling dynamical systems using linear differential equations. The lecture passes off smoothly with the students asking a few good questions afterwards. Next I meet with a student who is interested in doing a research degree when she finishes her Honours BSc next year. I discuss postgraduate student scholarship options with her and encourage her to contact some other universities and institutes of technology to see if they have places available in her areas of interest (optics and photonics).

Finally I meet with a group of students to discuss their 10-week projects that will run later in the year. Each year several fourth year students do a 10-week project with me on various topics as diverse as "Automatic colour detection system for M&Ms" (yes, the sweets!) to "An optical tweezers setup for moving polystyrene spheres". Once I've checked that their projects are running smoothly it's over to the research laboratory to see how things are going there. The lab is a hive of activity with two experiments running. The cold atoms are freezing and are now down at 50 microKelvin. There's a wealth of instrumentation being used for this and it's all working perfectly today so everyone is delighted. We use a very expensive and delicate infra-red laser system for this experiment: the laser beam consists of a stream of light particles known as photons. We shine the laser onto rubidium atoms and, on collision, each photon removes some energy from each atom. This slows each atom down, thereby reducing the average temperature of the atoms.

Because of its size, the microlaser experiment is hard to spot - but then I notice a bright green speck of 'dust' next to the microscope and realise that it is on! The powerful 25 Watt CO₂ laser will be switched on later today so we need to be very careful and ensure there is no danger since this laser could immediately burn a hole in human flesh or cause blindness. A visiting professor from China is giving a seminar at 4pm on 'Laser Research in Shanghai' - this should be interesting.

I need to organise a trip for myself and a research student to visit our co-workers in Brittany, France next month. We discuss who should travel and the benefits to the people involved - there are usually more volunteers than places so this is a tough decision.

It's 7pm and time to leave. I list all the jobs to be tackled tomorrow and send e-mails to the researchers to make sure they know what to do. Another work day is over and I'm off to the gym to relax.

Síle Nic Chormaic

'The cold atoms are freezing and are now down at 50 microKelvin.'



Physicist Síle Nic Chormaic presenting her work at the Women in Physics Conference, Rio de Janeiro, Brazil. Síle has a BSc in Experimental and Mathematical Physics from NUI Maynooth. She then gained an MSc in atomic physics and a PhD in atomic optics from Université Paris-Nord.