A SPECIAL REPORT



## Beyond the lab: Science careers in focus

**James Thompson is a senior process engineer at Vistakon Limerick**

Vistakon is the world's largest producer of disposable contact lenses and our Limerick facility is the only Vistakon manufacturing site outside the US.

We manufacture one-day, fortnightly, monthly and colour lenses for the Acuvue contact lens range and ship them around the world.

Manufacturing contact lenses is a very automated process. No one touches the lens from the moment it begins in the process until the moment it is packaged and boxed. As a process engineer, it's my job to ensure that process specifications and critical manufacturing procedures are adhered to during the lens-making process. It involves being conscious of how critical process control is to the nature of our product and how it comes in direct contact with our customers' eyes.

Several manufacturing lines operate within the plant to make a range of different products. I work on the newer lines that manufacture our latest generation of product. These new lines are among the most advanced in the world and can produce hundreds of thousands of lenses in a 12-hour shift.

I've been with Vistakon for just over a year now, and I'm leading two very high-profile projects. My role involves overseeing the work of several peer engineers on each project team and ensuring they understand the different sources of variation that can have a negative impact on a process. I also have to put something in place to minimise the chances of a defect ever happening again. Every single lens we make is inspected with state of the art automated inspection systems, equating to millions of lenses inspected each day.

I get a lot of kicks from working on projects with huge production budgets; the two I'm working on now are costing tens of millions of euro. There's always a great buzz among staff when we're bringing those new lines into the factory and everyone has an important role to play. At the same time, I don't feel like I'm a just a small cog in a large wheel.

Last year I completed a masters in micro-electronics from Edinburgh University and I've also presented several technical papers at international conferences and been granted three US patents relating to process design.

Like most multinationals, there's a great team spirit here at Vistakon. It's a very multi-skilled organisation. Process engineers can't work in isolation without the support of others, particularly those who specialise in mechanical, validation, quality control and electronic engineering. Technical stuff aside, there are great perks to working for an American parent company like Johnson & Johnson. We get free gym membership, free five-a-side football, and all our sports and social activities are subsidised. I also get to visit our sister plant in the US quite a lot and have just returned from Japan.

From an early age, I had a great aptitude for solving problems in maths, physics and chemistry at school. I went on to to work for several semi-conductor companies during the heyday of micro-electronics in Scotland, the majority of which have since closed down. Before working at Vistakon, I spent 13 years working at Analog.

The high-tech industry has become so competitive that, ultimately, you have to be prepared to move around. We're constantly competing with high-tech Asian companies that have a much lower cost base than us and people who work 70-hour weeks. We try to counteract that with our philosophy: don't work harder, work smarter.

In five to 10 years, I'd like to see myself working as a unit manager in Vistakon, which would put me in charge of all the engineers, technicians and projects in a particular section of the factory.

> 'We're constantly competing with high-tech Asian companies that have a much lower cost base than us and people who work 70-hour weeks'

***– in conversation with Amy Rose Harte***

# Wyeth's new recruitment drive

Wyeth is launching a fresh investment in its Newbridge plant, which means a raft of high-level positions for suitable candidates, writes **Paul O'Doherty**

Wyeth, one of the largest research-based pharmaceutical and healthcare product companies in the world, recently announced a €24 million investment over the next three years in a new development centre at its existing facility in Newbridge, Co Kildare, which will create more than 20 research and development positions.

It's another coup for the Newbridge plant, which already employs more than 1,300 people at the site and a further 1,700 at four other facilities throughout the country.

Only recently, Wyeth Medica Ireland completed a €300 million expansion at the same location in Kildare, which was partly financed with the support of IDA Ireland. This new investment also comes with IDA Ireland grants and is expected to attract product lines to the site, including the Aprela drug (bazedoxifene/conjugated estrogens), a product currently at phase three of testing, used in the treatment of postmenopausal osteoporosis and vasomotor symptoms of menopause.

Speaking in relation to the new investment, Wyeth's associate director for the pharmaceutical development centre, David Gibson, puts the new injection in perspective. "We're transforming an existing area on site, putting in a state-of-the-art development facility, the first of its kind, which will have small and pilot-scale technologies to bring products from late phase two, right through phase three to eventually to launch and commercialisation. It will be a three-year project to get us fully operational and our first major R&D development on the site. We plan to be fully operational by the second quarter of 2009.

"However, we will be recruiting now, over a cross-section of positions, primarily in Ireland, although if the skills are not available here, we will look outside. We will be looking for 20 scientists over a three-year period with specialities in formulation, material characterisation, process analytical technology (PAT), tech transfer and scale-up."

Fleshing out Wyeth's recruitment needs, Gibson offers a number of particular job specifications. "We will be looking at individuals at different levels with a MSc, BSc or PhD qualification and varying levels of experience. Some of these positions will be at senior level. For instance, in the area of material characterisation, we will be looking for scientists who may have been educated up to PhD level, who have experience in physical characterisation of both the active pharmaceutical ingredient (API) and excipients used in the development of solid dosage drugs, and significant experience in the industry.

"Their role would be to use advanced technologies and innovative techniques to characterise the API and excipients, understand them and their variability, and then control them. For every solid dosage drug, we would have an API and excipients."

In layman's terms, an active pharmaceutical ingredient (API) is the substance in a drug that is pharmaceutically active, while the excipients are the inactive substances used as a carrier for the active ingredients of the medication, items such as lactose or microcrystalline cellulose being the most common.

"Other jobs we are looking at include positions in process development scale-up which is essentially using quality by design techniques to develop the product and process looking at trying to identify the critical variables in the process.

"Once we've identified the critical variables, we want to understand how they affect the quality of the product and then control them. In these process development scale-up sections we are looking for scientists, MSc, BSc or PhD individuals at various levels who have experience in process development in research and development (R&D) or in manufacturing sites.

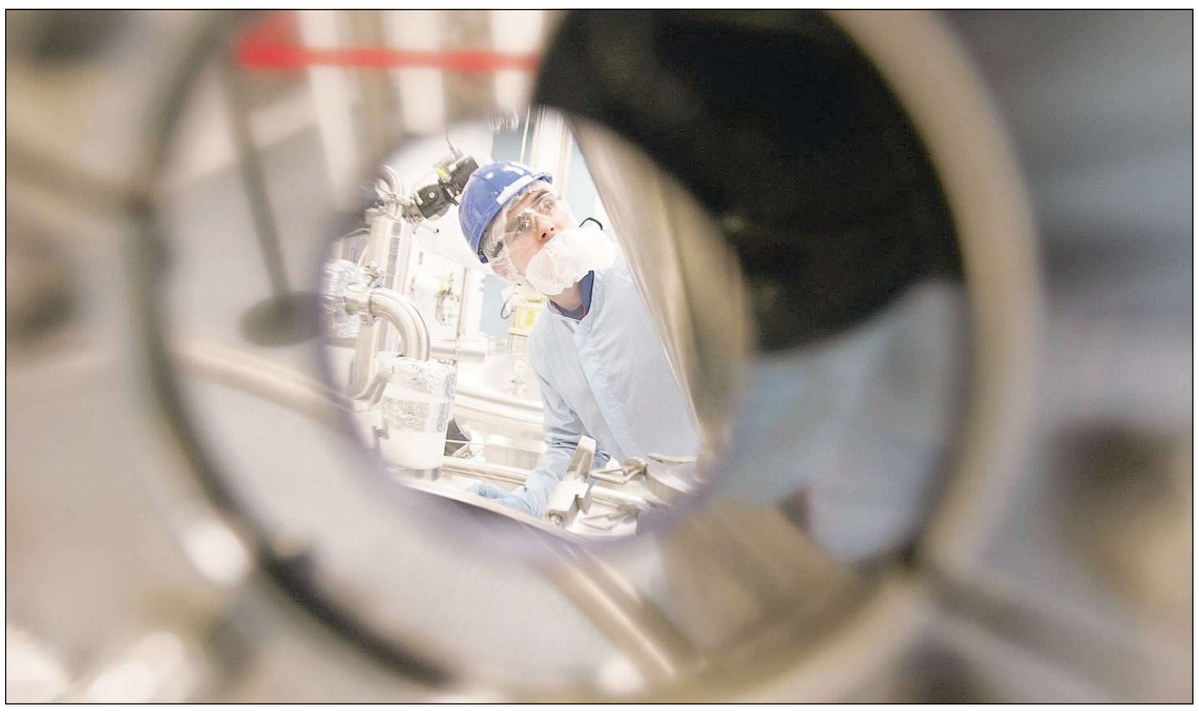
"Process analytical technology (PAT) is another key area where we will be recruiting. PAT is, essentially, using advanced analytical techniques to monitor the process as it's happening and to control it. By doing that, you are ultimately trying to build quality into the product, assure you have continual quality, and try to reduce or eliminate the end-product traditional quality control testing.

This role will include someone doing visibility on novel analytical techniques, developing those techniques for use within the process, in what we refer to as in-line, and also looking at using advanced statistical and chemometric software packages to analyse that data and to understand what's actually happening. It's a sequence of finding an analyser for a particular product, collecting a lot of data from a particular product and process, and then analysing that to find out what is going on. Once you see what's going on, to want to control it, and that's what PAT will allow you to do."

"We're also looking for an analytical development laboratory lead. This is a leadership position where the person will be responsible for developing analytical methods in support of phase two or phase three products. They will essentially be developing analytical methods with our corporate R&D people to help bring a product through the later stages of development and then eventually commercialisation. That person would have analytical oversight over methods of development, analytical automation, emerging and analytical techniques, stability testing and analytical forensics. We're talking PhD level."

Salary scales for the positions mentioned above vary from approximate entry levels of €35,000 to €50,000-plus, depending on experience, education and suitability for the job.

For more information consult www.wyeth.ie.



**Wyeth is about to launch a fresh round of recruitment.** Photograph: Alan Betson