

Lynne Joyce interview

In this issue, infocus speaks to biologist Dr Lynne Joyce about her career in science and microscopy – including her time at the Lord Rank Research Centre and Agar Scientific Ltd. Lynne has a long association with the RMS, and served as Honorary Treasurer for 16 years. Now retired, she is still closely involved with the Society, and sits both on the RMS Council and History Committee.

Let's find out more!

Lynne was born in Tynemouth in the North East of England, her early childhood coinciding with the post-war years. Her father, who had served in the RAF, was the director of a company which sold Morris motor cars, while her mother worked at the local hospital.

"I was an only child and probably a little bit spoiled", says Lynne, "but I was very lucky because my parents believed in getting a good education. I remember my mother used to do all the cooking, which is probably why I never learned to cook very well."

It was on her daily walk to primary school that Lynne began to take a keen interest in the natural world around her. She explains: "I used to walk past a garden with nasturtiums which always seemed to be covered in caterpillars. It was the way they moved, and how they had decided to live on these lovely orange nasturtiums - probably because they had munched all the leaves! I suppose that's one of my first memories of really taking an interest in biology."

"For secondary school my parents sent me to a convent school which had a reputation for achieving good results – a train ride from home - though I'm not a Catholic. I didn't really gel with languages, history and geography, but I did enjoy the botany, zoology and chemistry. The domestic studies were not my scene, so it may have simply been a process of elimination, rather than a choosing process."

She adds: "I really didn't like physics very much – perhaps because it was an all-girls school and the

only male teacher was the physics master. There were only five of us in the class. The lessons seemed full of equations and perhaps not terribly appealing. I now know better and should have tried harder!"

Having completed her A-levels, Lynne went on to study biology at York University – though at the time of applying, she had yet to form a clear idea of a potential career path, or even her next immediate steps.

She recalls: "When I left my school, going to university was expected of you. Most of us either went into teacher training or university, and I really didn't know what I wanted to do. In the end I applied for the Biology Department at York. The department had a very good microscopy department, with Tony Robards there at the time."

Lynne soon became attuned to the daily academic



Dr Lynne Joyce



Lynne taking a call at the Agar office in the 1980s. No computer required!

demands of studying for a science degree, and also gained her first serious experience of using microscopes. Like many science students before and since, she occasionally looked on enviously at the less structured timetables of her arts-studying counterparts!

She says: "As a biology student, unlike the arts, you went to lectures first thing in the morning and then you did the practical sessions, so you were occupied the whole day. I became more interested in plants than animals because I couldn't bring myself to kill the mice for the dissection practicals, and I had to bribe the demonstrators to do it for me! I quickly realised that the plants were going to be a lot easier to cope with."

By the early 1970s, Lynne was studying for her PhD on 'The Behaviour of Plant Cells in Culture' at Newcastle University's Department of Plant Sciences in the Faculty of Agriculture. She was still writing her thesis when a job opportunity came up at the Lord Rank Research Centre at High Wycombe (which, as **infocus** readers may recall from our June 2021 issue, was also where the respected food scientist, Roger Angold honed his skills). Lynne would go on to work here for 10 years as a Senior Scientific Officer,

firstly in the Crop Science Department, and later in the Electron Microscopy Unit. It was an exciting opportunity – though not without an element of trepidation.

Lynne recalls: "Moving somewhere as far away as High Wycombe was quite a wrench in those days, but it was very difficult to get jobs in the North East, with so much unemployment at the time. If I had gone into the teaching profession, that would have been a bit easier. It took me more than 18 months to write up my PhD – not just because I had started working by then, but because there were children living in the house where I was renting a room, and they used to come into my room when I was at work and regularly re-arrange my papers!"

She adds: "It was a relief that I had got a job, and a bit scary that I was out in the big, wide world, but I was excited by the research and working with such a wide range of people. I was in the Crop science department with regular contact with the engineering and bakery departments and the microscopy unit. My initial research was trying to produce haploid plants from pollen grains in tissue culture. There was also the production of Quorn – the meat substitute - going on at the time."

So what did Lynne enjoy most about working at Rank Hovis – and the microscopy in which she was engaged?

“I think it was just seeing how everything worked together from a microscopy level to a ‘whole’ level”, she explains. “I loved looking at the TEM of the wheat grain and the structure of bread and doughs – thinking about all the structures and how everything works together.

“I worked alongside Roger Angold and Mick Williams who were very innovative. We had a TEM and SEM and probably one of the first cryo-systems. I remember sitting there watching the liquid nitrogen puffing out. It was really interesting to see the structure of foods but also, getting involved if there was a problem on the production lines. I remember going down to Kent to do some work on the production line, where they were brewing up great vats of starch – so different to the laboratory environment.”

While women’s representation across the sciences – both in academia and industry – has increased over the decades, the landscape in the 1970s was of course very different, as, it’s probably fair to say, were the prevailing attitudes of the time. But what was life really like as a female scientist in the 1970s? Did Lynne ever feel uncomfortable, or even experience any discrimination first-hand?

She says: “In the Crop science department, there were two women in senior positions – a plant pathologist and myself – and there were quite a lot of technical female staff. Certainly at the technical level there was probably a good mix, but perhaps



Lynne in action at the Agar exhibition stand.

not at the higher level. I never felt uncomfortable or experienced any discrimination.

“In a way I think I have been very lucky throughout my career in that I have always been considered first and foremost as a person, and there were never any issues. I just thoroughly enjoyed all my time there, and the contribution that microscopy made to the food industry.”

Agar Scientific

After leaving RHM Research, Lynne’s next big career break came when she moved to Essex with her husband Doug (a plant scientist who was also at the Research Centre, and whom she met during her post-graduate years at Newcastle).

She says: “He got a different position, but still with one of the Rank Hovis companies. I worked for him doing field trials, and also in a commercial seed lab doing germination trials.

“Fairly soon after that, I met the wife of Fred Sheldon, she made filaments at Agar Aids (now Agar Scientific), and they were looking for somebody to cover work in the lab because their technician had gone to New Zealand for a year. I had experience of using Agar filaments and consumables in the microscopy unit at RHM, so I went for an interview and got the job. Alan Agar was a physicist and Fred was a material scientist, so I was the biologist that joined the team. It was a case of being in the right place at the right time.”

Lynne stayed on at Agar after her temporary position came to an end, moving away from hands-on microscopy and taking up a role as Customer Liaison Officer and Sales Director. Her responsibilities included improvement of customer service, technical writing, queries and quotations. She also took on responsibility for the mail order catalogue. In 1989, after Alan Agar retired, she was appointed Sales Director with responsibility for promoting sales into the U.K. and export markets. Three years later she became the company’s Managing Director – a position she held until 2008 when she took on



Lynne with Alan Agar at MICRO '94.

the role of Director of Market Research until her retirement seven years ago.

She says: “My time at Agar gave me such an amazing experience and insight of the whole microscopy community and industry. Alan originally started the company as a consultancy, but the economic climate at that time was not good so he decided to manufacture the filaments and the calibration specimens that microscopists required. He put together a range of items that were needed in order to make a specimen to look at in the microscopes – fixatives, resins, tweezers, glass used for making ultra-microtomes, knives – and also importantly, free technical advice. At that time there was a lot of people working by themselves, and they just needed advice on how to do things.”

Lynne at the RMS

It was also Lynne’s move to Agar that led to her involvement with the RMS. She recalls the first conference and exhibition she attended – a European meeting held in York in 1988 – on the Agar exhibition stand.

“I saw so many of the people I had spoken to on the phone and also met many microscopists and students from all disciplines from UK and Europe – it was such an experience. I also got to meet a lot of the other exhibitors.

“Afterwards I told Alan that I thought I mustn’t have been doing my job very well, because he hadn’t

introduced me to many people. He said he couldn’t introduce me because he couldn’t always remember names – he knew so many people!”

Lynne went on to serve for 10 years as RMS Honorary Treasurer from 1995 to 2005, and was also a member of the Society’s Trade Advisory Committee (now the Corporate Advisory Board – CAB) from 1992. She served a further six years as Honorary Treasurer from 2014 to 2020, and is still an ‘invited’ RMS Council member. She also sits on the Society’s History Committee.

Reflecting on her long association with the Society, Lynne says: “I was very lucky because both Alan and Fred gave me time off from Agar to spend time on RMS business, because they were both very supportive of the RMS and that was important. I have been able to see the RMS grow and progress, which has been exciting and rewarding. One of the key events during my first period as Treasurer was the end of the MICRO meetings taking place in hotel basements, and the change to the MicroScience exhibition and Conference at London’s ExCel in 2002.”

She adds: “With Agar, I was also going to exhibitions abroad, so I was able to see what microscopy conferences in other countries were doing and that helped to inform both the CAB and the RMS as a whole – because it is obviously an international society. I have found it so interesting working under the various RMS presidents. It’s been a real eye-

opener to see how they have moved things forward and made the society what it is today.”

So what, for Lynne, are the most important aspects of the Society’s work, continuing to this day?

“I think the age range and diversity of its members are really important, as are the Science Sections, Focused interest Groups, Bioimaging UK, conferences and exhibitions. There’s also the one-day meetings and training courses - plus the Outreach activities and microscope kits for schools. The Society is always keen to embrace new challenges and the staff have been brilliant in in meeting those challenges.

She adds: “The virtual meetings over the last two years have done an enormous amount for the RMS because it has enabled us to relate with more microscopists, both domestic and international – people who wouldn’t normally be able to travel to an RMS event. We have obviously missed ‘in-person’ meetings but I have to say I have also been able to attend more meetings than I probably would have done.”

Walks, wildlife and words of advice

Still based in Essex, Lynne and her husband enjoy walking, gardening and keeping an eye out for the local wildlife. She is a member of her local horticultural society, as well as the Alpine Garden Society, while her husband is a keen photographer and a member of the Suffolk and Essex Wildlife Trusts.

She says: “When we first moved to the countryside I was still working fairly long hours, but I always had a strong feeling that if you live in a village, you should be giving something back to the village. That’s why I became involved with the horticultural society.”

Over the years, one thing she has witnessed first-hand – and become concerned about – is the reduction in wildlife around the local area.

She says: “If you just look around the countryside, the actual lack of wildlife is quite apparent. I remember when you used to drive in the summer, and your

windscreen would be completely covered in flies. We also used to have frogs and newts in the garden. On the other hand, we now have red kites and buzzards in the local area, so things do also just change over time. The garden birds have also changed over the years.”

Reflecting on advances in microscopy which have occurred since her time as a ‘hands-on’, working microscopist, Lynne looks on in wonder – and perhaps even with a tinge of envy – at the technological improvements and evolving techniques at the disposal of today’s microscopists engaged in research.

She says: “Of course, when I was working, the resolution wasn’t quite as good as it is now. When a big technological advance is made, there are some people in microscopy who will say ‘I predicted that would happen 20 years ago’, but I was just totally amazed at how much better it got, and how much microscopy has contributed to everything in everyday life. And these days, to sit in meetings with some of the Early Career people who are so passionate and excited by microscopy, it is just wonderful to know that this is going to continue.”

She adds: “Some things tend to plateau, but with microscopy, it just seems to go up and up – both in terms of the instrumentation and automation. The time we used to spend aligning the instrument and the time to just prepare a specimen, and now you just press a button and it is just magical. In some ways I’m a bit jealous that I didn’t get to do hands-on stuff with all this modern technology!”

And what words of advice does Lynne have for anyone starting out in science and microscopy?

“I would say ‘just do it’ and take opportunities when they come up”, she says. “Things are a lot more structured these days, and it has also become much more international, so you can get experience in many different laboratories. So I would say just take every opportunity that you can.”

Owen Morton

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THESE ARE NOT COFFEE BEANS.

This is the cyanobacterium *Chroococcus* seen through a 60X X Line objective.

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