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Editorial

I wonder when plant pathology became such an urgent profession? I can hardly remember the last time I didn't have several deadlines looming, a proposal to finish and a crisis brewing. Of course it might just reflect my inefficiency and ineptitude, but doesn't explain why everyone I meet seems to be chasing their tail too! Such a frenetic existence can make it difficult to find the time, or energy, to put into practice the aspiration of life-long learning. However, sharing a house with a teacher and three young children I am constantly reminded of the importance of education. Despite this, I often wonder whether the balance between times I spend updating my professional knowledge and on technology transfer to industry could be improved.

In this issue there are many examples of how the BSPP helps members to access a wealth of opportunities to gain new information. At the forefront of this exercise the society publishes three high quality journals. But there are also several of funds available to facilitate travel, sabbaticals and short research investigations (more details can be found on page 3). The Society also provides opportunities for the public-spirited to dip a toe into the task of promoting plant pathology to people who don't normally come into contact with the subject. Our president Stuart Wale has ambitions to improve knowledge transfer even further with the introduction of local plant pathology groups - a painless way of keeping up to date technically and socially!

A successful school liaison program at CSL ensures a steady stream of youngsters visiting the laboratories and quizzing the scientists. Not long ago I acted as chauffeur1 for my daughter and a group of her friends for one of these visits. Quite apart from the exponential increase in their respect for me, I was amazed at their enthusiasm and excitement about the trip. It is easy to lose sight of how privileged we are to be paid for such interesting work. Even better, membership of the BSPP provides a key to unlock a wealth of new learning opportunities. Now if I could just find the time to fill in that form ..............

Steve Parker

1 sadly I could not provide a Pink Rolls Royce
**BSPP Funds**

**BSPP Plant Pathology Promotion Fund:** to promote an understanding and awareness of the importance of Plant Pathology to a wider audience than its membership. Applications for grants of up to a maximum of £2000 will be considered for projects that have as their aim the stimulation of interest in, and knowledge and awareness of, Plant Pathology to people who do not normally come into contact with the subject.

[www.bspp.org.uk/funds/promotion.htm](http://www.bspp.org.uk/funds/promotion.htm)

**BSPP Fellowships:** intended to stimulate and facilitate studies or training to the benefit of plant pathology by providing funds for travel, consumables and other necessary costs at another institute.

[www.bspp.org.uk/funds/fellowships.htm](http://www.bspp.org.uk/funds/fellowships.htm)

**BSPP Travel Fund:** to provide financial assistance to members wishing to attend a plant pathology conference in the UK or overseas or make short study visits abroad.

[www.bspp.org.uk/funds/travel.htm](http://www.bspp.org.uk/funds/travel.htm)

**BSPP Undergraduate Vacation Bursary Scheme:** to provide support for work on specified research projects for students during the summer vacation.

[www.bspp.org.uk/funds/vacation.htm](http://www.bspp.org.uk/funds/vacation.htm)

**BSPP MSc Project Bursary Scheme:** to extend the BSPP’s commitment to training and education in British plant pathology a new MSc bursary scheme is now available. This fund supports a limited number of students during the research phase of their MSc projects in a plant pathology related discipline. Selection will be on the merit of both the student and the proposed project.

[www.bspp.org.uk/funds/msc.htm](http://www.bspp.org.uk/funds/msc.htm)
Thoughts from the President

Despite two preparatory years, as Vice President and President-Elect, you are never quite certain what to expect as President. Suddenly you become responsible for a professional Society and you are the person to whom people refer, be it complaints or positive issues. On top of this is the one year in which you have the opportunity to take initiatives. How is it going so far you may ask?

Surprisingly well! With a good team on the Board of BSPP there have been few, if any, problems. I hope the same continues for the rest of the year but as the Presidential conference draws near, I anticipate a few more issues.

In contrast to tradition, I thought a few notes from the President might inform you all a bit more about the Society you have joined up to. It may be a regular feature but that will depend on future Presidents.

BSPP is a registered Company

Perhaps few members realise BSPP act as a Company limited by guarantee. Thus all elected members suddenly become Directors of the Company. Apart from a little extra bureaucracy, this is not as onerous as it suggests. Indeed for anyone considering standing for the Board of BSPP bear in mind that being a Company Director will look good on a CV! I have been delighted at how smoothly the Board operates with the need for only the lightest of touches from the President. The Secretary and Treasurer carry out a mass of work unseen and it is these posts that really carry the burden of the Society work - ‘they are the radar of the Society’. And they do it so cheerfully! But the Board is a team effort and all the other members contribute fully to a very rounded Society. This fact is not always evident from the outside. If you don’t believe me why not stand for election next year.

The journals - the stars of the Society

One eye opening experience recently was to visit Blackwells, our publishers, for the annual meeting to review the progress of one of our journals - Plant Pathology. As I’m sure you will all realise, the journal has held its reputation very well and continues to provide a major source of revenue for the Society. What was eye opening was seeing at first hand the world of publishing. Firstly, the Blackwells team were all (relatively) young females who were carrying out highly professional jobs in a fast moving and competitive business. There’s nothing wrong with jobs staffed by females but it came as a complete contrast to my personal corner of agriculture which is male dominated, mostly by old fogies. Secondly, there is a revolution going on in publishing. We all know that information is increasing available electronically but I hadn’t appreciated the rate of change and potential implications for the Society. Libraries are not spending less but they are paying for electronic resources more and more and buying paper journals less and less. Income to the society from the latter is relatively high compared to the former but if subscriptions for the paper journal fall, overall income to the Society could also fall. To their credit, Blackwells seem to be managing this changing world well and will hopefully manage to continue to produce monetary returns to the Society of a similar scale in the future. It is their best interest as well as ours to do so! Rest assured the Board is keeping a close watch on this situation.

Molecular Plant Pathology is a young journal. It is doing extremely well but, unlike Plant Pathology, it doesn’t have the same track record of the paper version being bought by major libraries around the world. It is being purchased mostly as part of an electronic package and this doesn’t generate the same income. Nonetheless, the Society is fully behind MPP and we look forward to a good citation index rating in a year’s time which we hope will
project it even more as a journal of high repute.

The senior editors of our journals Richard Shattock and Gary Foster, with their enthusiasm and energy, are the guiding lights to their success and are to be congratulated on their efforts.

**Reaching out to BSPP members.**

At the last meeting, the Board debated why plant pathologists join the Society. Clearly, to receive one or both journals ranks highly as a reason. There are those who join to reap rewards from the various bursaries and awards we offer. But I hope that in some measure you sign up because you have a strong feeling for the profession of plant pathology. This might be a somewhat naïve view, given that everyone from a molecular biologist to a field agronomist might come under the term plant pathologist. However, it is a profession that fulfils an important role in global food security. It is a profession that sustains the best scientific principles and, in my experience, offers extremely interesting challenges. These are just a few of the reasons for standing up and being called a plant pathologist. The Board tries very hard to both encompass the spectrum of activities within the membership and represent them in as many ways as possible. If you feel there is something more we can do just let one of the Board members or myself know.

If there is one initiative I would like to make in my year as President it is to try and bring the Society closer to the membership. To do this I have asked several members to set up ‘local’ BSPP groups - in the UK in the first instance. Some funding has been set aside by the Board for these groups to hold half or whole day local meetings at least once a year to which all members are welcome. The idea came from two successful local groups that already exist, the Cambridge Plant Pathology Club and the Scottish Plant Pathology & Mycology Club. These will continue to be supported but further local groups will be established on a regional basis. These local groups are a good way to meet and interact with other plant pathologists to learn about plant pathology research and other activities locally and, in part, for social reasons. The format of meetings has yet to be decided but I hope that when the activities of local groups are announced you will feel able to support them.

**Presidential Conference**

I cannot finish without a mention of the most exciting climax of my personal year - the Presidential Conference. The omens are good that there will be a large attendance. It is a joint conference with the European Foundation for Plant Pathology and, as such, will be a good place to make contact with researchers from continental Europe including those from countries new to the EU. Where better to establish friendships for your forthcoming EU research bids?

Because of the international nature of the conference, the programme covers all aspects of Plant Pathology. This said, the programme has been devised to accommodate and delve in depth in all spheres of interest. I sincerely hope that those who come will not attend just the sessions they are particularly interested in but all the sessions. This conference is about appreciating the need for a wide understanding of plant pathology. It is about knowing how discoveries can be developed and then delivered in practice. Making a discovery is not enough. To make a difference it has to be researched and then practitioners have to decide how it can best be implemented. The whole chain requires input from all those involved - a real challenge in itself.

Oh, and don't be put off by the venue being Aberdeen. Those of us who live here will tell you what a great place it is to stay and that communications to it are really very good. OK, put
in a jumper to wear but do sign up to what will be a thoroughly enjoyable and stimulating conference.

See you there

**Stuart Wale**
7th Conference of the European Foundation for Plant Pathology
And
British Society for Plant Pathology Presidential Meeting 2004
President: Dr. Stuart Wale

University of Aberdeen, UK
5th - 10th September 2004

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The Garrett Memorial Lecture

www.efpp.net

For programme updates and further information, visit the BSPP and EFPP websites or contact the booking secretary and local organiser:

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www.bspp.org.uk
A Week in the Life of a PhD Student Working on Strawberry Powdery Mildew

I started my PhD studies in January 2004, working on the epidemiology and control of strawberry powdery mildew (*Sphaerotheca macularis*), on crops grown under protection. This disease is a major problem for commercial growers and it is generally controlled using routine spray programmes. Symptoms can be present on the leaves, flowers and fruit. Severe infection can cause deformed fruit, but any symptoms present on the berries are unacceptable to buyers. My task is to improve understanding of the disease so that better control can be achieved, hopefully using less fungicide. Dr. Steve Parker leads the project from the Central Science Laboratory, but I am based at the University of Hertfordshire in Hatfield under the supervision of Dr. Avice Hall.

The work is being funded by the Horticultural Development Council (HDC), which gets its income from a levy that all the growers pay. Therefore, its research is very much directed at producing results that can be implemented by the growers. My project, for example, has very close links with commercial growers and they are providing excellent advice and help in the development of the work. My main trial site is located on and managed by a commercial farm in Kent. I am also monitoring several other sites around the country.

My year has two distinct halves to it. The first half (that I am in the middle of now) entails fieldwork and the second half will be filled with laboratory work and preparation for next seasons field trials.

Monday is an office day for me. I start by checking and answering e-mails. I then prepare all the forms that I have to fill in and sort, so Avis can sign them. When Avis is ready we have our weekly time tabled meeting to discuss how the trials are going and review the data collected in the last week. This meeting usually throws up one or two points that I need to look at further. So I spend some time researching these, then deciding when and where I could integrate them in to my provisional experimental schedule for spring and summer 2005.

I start Tuesday in the office again, but I will not spend the whole day there. I go and visit the university’s glasshouse site, where I have an experiment running. My field trial sites are at least an hour and a half drive from the university, so it is very useful to have access to the university glasshouses, as these are only 10 minutes away.

Whilst at the glasshouse site I apply any treatments that need to go on to the plants and score them for the amount of *S. macularis* present. A large part of the project is aimed at evaluating novel control methods for *S. macularis*. Some of these control methods have not been used on strawberries before, so it is useful to have the space in the glasshouse to carry out some preliminary screening before we devote any valuable field trial space to them. When I have finished at the glasshouse site I return to the office to download the data and gather together all the equipment that I will need for the next day’s fieldwork.

Wednesday is the first day each week that I visit my Kent field site. This means a trip around the M25, so I try to leave fairly early in the hope that I will avoid being held up too long trying to get across the QE2 Bridge. The Kent site consists of five polytunnels three of which we are using for experimental work this year. At this stage in the trial one of the tunnels has a variety trial in it and the other two have various control methods for *S. macularis* applied to them. On Wednesdays I score the variety trial and one of the tunnels being treated with control methods. I have also been collecting the fruit produced by the different varieties, but I don’t
I have much to collect at the moment because most of it has already been produced this season. If everything has gone to plan, I leave the trial site in mid afternoon, hopeful of avoiding the worst traffic going through the Dartford Tunnel on my way back to the office!

On Thursdays I visit a grower situated near Wisbech. Here I am monitoring part of the farm to see how the powdery mildew builds up and is controlled on a field that is part of a commercial site. Most weeks I also have a meeting with the grower (who also sits on the HDC panel that gave the project it’s funding). She is able to provide me with guidance on the practical aspects of commercial strawberry growing - something I could never get from the literature.

On my way back to the office I call in to the glasshouse site to see how my plants are growing and to apply any treatments that are needed. Back at the office, I download data that I have collected on to my computer. This often also entails some preliminary analysis of the data, when the demands of fieldwork reduce I will have time to analyse them more completely.

I make a second visit to the Kent site on Fridays. Again leaving early to avoid traffic. First job on reaching the site is to apply any treatments that are needed for the control methods trial. Some of the treatments need to be applied weekly, so I always have something to do! I then score the second of the two tunnels that have the control methods trial in them. I can usually get back to the office before it is too late in the afternoon, giving me time to download data, check e-mails and write notes about the important points that I need to bring up with my supervisor when I see her on Monday morning.

At the moment all my time is dominated by fieldwork, so it is fortunate that I enjoy it! As summer turns in to autumn I will not have as much to do at the field sites, which will free-up more time for laboratory and office work. I am collecting leaf samples at the moment, which I will use for some quantitative diagnostic tests. I want to use the diagnostic to test how well my visual disease scores are able to measure the earliest disease symptoms of leaf cupping. I also want to test whether new planting material, supplied by propagators, is healthy or infected when it arrives on farm. Finally there is plenty of planning needed for next year’s fieldwork and I might even try my hand as a demonstrator for some undergraduate practical classes.

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Strawberry pickers hard at work in a commercial tunnel

Jolyon Dodgson, looking fit and healthy from a diet of strawberries and cream!
Jargon Junkies and Dispelling the Myths

In 1998 in dire circumstance, my father asked me to search the Bodleian library in Oxford for any scientific journals on a pig stomach disorder relating to the consumption of pea protein. I found an overwhelming amount of knowledge on the effect of pea lectin predisposing pigs to potentially lethal enteric disorders. Five hundred of my father’s pigs died as a result of an error made by the feed company, but the information was too late to prevent the bankruptcy. I think we all have moments that decide where we are going to go, and at that time the futility of having such an enormous array of knowledge at my finger tips, but not being able to share it with many like my father struck me hard. I wanted to be able to break down the scientific jargon to share it with the people who really needed it. I do feel scientific jargon can, in some cases, be an armour for the insecure. Hence I was drawn to the Eden Project, experts in public education and proponents of breaking down the barriers between research and application.

I was surrounded by dynamism at the Eden Project, blown away with the passion for “Plants and People”. Perhaps ‘Plants, People and Fungi’ would be more appropriate but fungi do not inspire the millions, unlike the opium wars, the chocolate drink of the God’s, annatto face paint, or the trade issues today. Eden inspires and empowers the public to want to make a difference. In my first months a middle-aged gentleman came up to me and said, “Do plants have to have flowers to make fruits? And the incisive questions just kept on flowing.

I started Eden as a guide; giving a number of ad hoc talks to audiences of 50 or more, with practice this can dispel any seminar jitters. In fact, now seminars are a joy; the audience don’t walk away if you are less than interesting. Nevertheless, I moved to horticultural technical support, covering a wondrous diversity of plants from around the world. Now in only a few countries would I not recognise at least a handful of plants. Eden boasts experts in marketing through to performance, and I had the great fortune in working with many of them. I coordinated a framework 5 EU project for a year, involved in developing technology for precision agriculture, called ‘PLANTS’. What would a plant pathologist know about branding, setting up international exhibitions, or even constructing a web site? A painless progression through Eden’s departments led me through the details; to all my previous colleagues I remain extremely grateful. But I was not ultimately where I wanted to be, I needed to have my feet on the ground, hands in the soil. I moved to Stockbridge Technology Centre (STC Ltd) in Yorkshire.

The facility at STC, originally part of the National Agricultural Advisory Service, then an Experimental Horticulture Station for ADAS and latterly a development site for HRI, was saved from closure, during the recent re-structuring of HRI, thanks to the support and financial assistance of the UK horticultural industry…and the dedication of individuals like Graham Ward (currently Chairman of the NFU Board for Horticulture) and the local MP Mr John Grogan. Linked to a charitable Trust the STC is now is a non-profit R&D organisation whose primary aims are to troubleshoot, to resolve crop problems and to develop and deliver technology to assist the UK horticultural industry remain competitive. I remain bowled away by the direction and drive of this organisation; the research work from plant pathology, entomology to agronomy is in direct support of the UK agricultural and horticultural industries.

The unique assets of STC are its direct contact with growers its broad links with science organisations, including universities, and other stakeholders.
through collaborative R&D. Each year, the results of an enormous diversity of projects are rapidly and widely shared within the industry itself. This extension work is achieved both through the contacts and experiences of my colleagues, but also through the ‘plant clinic’. Samples are sent in for diagnosis from growers throughout the year and this keeps the pathology department extremely busy. The Clinic provides a ‘first point of call’ for growers and this not only provides an important commercial service for the industry but also enables the team of plant pathologists alert to any disease outbreaks, or novel pathogens. Thus, keeping the STC fighting on the front line beside UK growers.

I am very fortunate to have worked at the Eden Project and now Stockbridge Technology Centre, but it is the opportunities that are opening up here with the expansion of STC that really does excite me; a place where I am meant to be.

Dr Hannah Jones
Stockbridge Technology Centre Ltd

Hannah will be providing a more regular update of Plant Pathology activities at STC in future editions of the BSPP Newsletter.
Conference Reports

Workshop on Potato Late Blight (*Phytophthora infestans*), Jersey and Saint Malo, 31 March - 4 April 2004

The workshop was organised together with the Department of Agriculture and Fisheries of the States of Jersey (Channel Islands), Germicopa (France) and the French Regional Plant Protection Service on Jersey and St. Malo, France. The Workshop was a follow-up of the Concerted Action EU.NET.ICP on the European network for development of an integrated control strategy of potato late blight. After 4 years and 4 Workshops the Concerted Action came to an end, but through the enthusiasm of the participants and the sponsorship by companies with an interest in late blight the series of Workshops continued. The fifth Workshop was held in 2000 in Munich, Germany, the sixth Workshop in 2001 in Edinburgh, Scotland and the seventh Workshop in 2002 in Poznan, Poland. I had attended the two previous workshops, gradually taking over from Nigel Hardwick who had been involved for CSL since the Concerted Action began in 1996. For the Jersey workshop nearly 70 participants from across Europe took the opportunity to discuss their latest results from studies aimed at improving the control of this high profile disease. Sessions focused on decision support systems, reduced fungicide doses, developments in plant breeding for improved resistance and the effectiveness of current blight fungicides.

Each workshop begins with a rapid roundup of how the disease progressed during the previous season in each of the represented countries. It was apparent that the 2002 season was characterised across Europe by early infections, which caused concern for growers, but which were fortunately halted by the very high air temperatures in July and August.

The first session proper looked at recent developments in decision support systems (DSS). Howard Hinds from Plantsystems Ltd. crop consultants kicked off by describing how the Dutch ‘Plant Plus’ scheme is being used in Jersey, with their famously early crops, to schedule fungicide applications. Lesley Dowley of the Crops Research Centre, Ireland, reported on a comparison of four DSS with a routine fungicide programme. This showed that savings in applications could be made when disease pressure was low. I presented some work on comparing how results from two DSS could vary when the input weather data was ‘improved’ by spatial interpolation.

After lunch the early afternoon session focussed on organic and reduced input production systems where late blight is potentially devastating. Louise Cooke, Department of Agriculture and Rural Development Northern Ireland, described disease progression and yield comparisons between cultivars with varying levels of resistance. The results showed that the recently imported Sarpo cultivars from the Sarvari family in Hungary exhibit a very high level of resistance indeed. Ruairidh Bain, Scottish Agriculture College, reported on how the degree of seed borne infection influenced a later epidemic in two contrasting seasons. Marti Koppel of the Jõgeva Plant Breeding Institute, Estonia, showed that the virulence of *P. infestans* isolates was not only dependant on cultivar resistance but that results could be skewed by the size of the experimental plots.

The second afternoon session switched diseases to look at ‘Early’ blight caused by *Alternaria alternata* and *A. solani*. Jozefa Kapsta from the Plant Breeding and Acclimatization Institute in Poland related their
experiences with the disease in 2003 and the measures taken to try and quantify its detrimental effect on yield. Jan Hadders of Dacom described how the disease was causing problems for potato growers in many countries including Egypt and the USA.

On the following day the entire workshop decamped by ferry to Saint Malo on the Brittany coast. Our hosts, Germicopa and the Regional Plant Protection Service, had arranged a fantastic lunch featuring local produce from both land and sea. It wasn’t all herring and calvados however and during the afternoon the Protection Service (via Serge Duvauchelle) presented their new internet based DSS for late blight in France. In addition Didier Andrivon explained what the differences in disease progression curves could tell us about the nature of resistance in the host.

Before heading for the return ferry there was an all too short opportunity to explore the intramuros of Saint Malo - the old walled town. With a mixture of broad boulevards, narrow streets and cobbled alleyways there was a great deal to see and shops to browse.

Once back on Jersey our travels continued into the early evening with a visit to a farm on the east coast of the island. The grower was able to show us his crop of Jersey Royal potatoes, still mostly under plastic sheeting, growing on the light sandy soil and only about three weeks away from lifting. As the daylight faded our bus returned us to St. Helier past some of the cotils (steep south facing slopes) used for the earliest potato production. The Jersey Royal is unique to the island and is cultivated on 3 - 4,000 hectares, almost a third of the total area of the island. The harvest contributes more than £20 million each year to the local economy.

The final day of the workshop started with a split session. The majority met to discuss the efficacy of existing fungicides, registration of new products and anti resistance strategies. The remaining participants discussed the use of decision support systems and the likely future direction of research in the subject. After lunch the final session featured presentations with various topics. Bent Nielsen from the Danish Institute of Agricultural Sciences described the effects of reduced fungicide dosage on the development of blight epidemics. Nick Bradshaw of ADAS Cardiff related some results from the first year of the British Potato Council funded ‘Fight Against Blight’ campaign. Nick thought that it had been a worthwhile endeavour in at least getting growers to think about where the disease was coming from each year, usually their discard piles from the previous season.

After two and three quarter days the workshop came to a close but with a commitment to continue the series in Tallin, Estonia, in October 2005. It remains to thank Rosemary Collier of the States of Jersey Agriculture and Fisheries Department and Catherine Chatot of Germicopa for their excellent local organisation of the workshop. Finally the workshop was sponsored, in alphabetical order, by Avebe, Belchim, Bayer, BASF, Certis, Dacom, Dow Agrosciences, DuPont, Germicopa and Syngenta. The generosity of the sponsors cannot be overstated as without their financial support it is unlikely the late blight workshops could have continued in their present and valuable form.

Moray Taylor
Central Science Laboratory
Meeting Report -EAPR Virology Section, France

In June, I attended the 12th Meeting of the European Association of Potato Research (EAPR) virology section, held in Brittany, France. Held every three years, this is the meeting that does exactly what it says on the tin; where Europe’s potato virologists get together and well...talk about potato viruses. This year’s week-long meeting managed to attract over 100 delegates, including representatives from virtually every country from the Pyrenees to the Urals, and a good number from beyond, including Japan, Canada, Iran, Israel and New Zealand. The conference itself was held in the quiet Breton village of Le Tronchet, about 40 km from Rennes, with both accommodation and meeting at the Hostellerie Abbatiale, a former 12th Century monastery. All in all this provided a very attractive backdrop and generated a great environment for relaxed discussion and for catching up with old acquaintances.

Overall the scientific session covered all the main issues in potato virology: emerging diseases, vectors and transmission, evolution and variation, virus diagnosis, and resistance and control. In total there were three full days of scientific presentations, including around 35 oral presentations and slightly fewer posters. However, as per usual, it was Potato virus Y (PVY) that was flavour of the month, with the debate on ‘what is PVY-NTN’ still going strong. In fact it was hard to see that any progress had been made in this area since the Czech Republic three years ago! Now I won’t go into too much detail as life is too short, but for those blissfully unaware of the issues involved, there are isolates of PVY that can cause a disease called Potato Tuber Necrotic Ring Disease (PTNRD), which gives necrotic ring symptoms on tubers and is generally very bad news for potato growers. However, defining which isolates can cause PTNRD is, to put it mildly, not simple and a huge amount of time is spend by all and sundry trying to develop detection methods (invariably PCR-based), that can identify the necrotic tuber isolates (also known as PVY-NTN ‘strain’). To date none of the methods developed stand up and it is unlikely that this great Holy Grail of potato virology will ever be solved, until someone can work out which sequence determinants in the viral genome induce the tuber symptoms. A couple of labs are now working on this and perhaps by the next meeting, some progress may have been made towards solving this great conundrum. We can only hope!
Now one of the finest traditions of the EAPR virology section is that all work and no play makes a potato virologist a dull boy. There has always been a heavy emphasis on 'hospitality' at these meetings and the French organising committee were determined to make sure they weren't outdone. In fact it is safe to say I don't think I have been to so many civil receptions and met so many mayors in my entire life! However, never one to turn down a free glass of champagne or six, it did mean a good time was had by all and it certainly gave our hosts chance to make amends for scoring two goals in injury time! On Wednesday, we had the now obligatory visit to a potato breeding station. The detour to visit Aromanche and see the Mulberry harbours, built by the Allies after the D-Day landings, was very welcome but the 10 hours spent on a coach would not feature highly in my conference memoirs. Friday was a full social day with visits to St. Malo, Mont St. Michel and elsewhere. Unfortunately, due to the vagaries of budget airline timetables, the day was curtailed for us at lunch and we had to wing our way back home.

So congratulations to Camille Kerlan and his army of helpers for organising such a good meeting and here's to the next one in sunny Scotland in 2007. And finally I would like to say thank you to the BSPP Travel Fund for their financial support.

Rick Mumford

**BSPP Fellowship Reports**

**Comparative Analysis of Fitness-Associated Traits of Phyllosphere Colonising Pseudomonas**

My research background is primarily molecular genetics and bacteria-plant interactions and I have for some time wanted to broaden my interests into other research fields. One particular area is that of population genetics because of its ability to provide an understanding of the evolutionary history of a population. By studying the variability in current populations we can account for the causes in operation and thereby provide an indication of the likely direction of future evolutionary change. This is clearly important when considering the interaction of non-pathogenic and pathogenic organisms within a population. To better understand the evolution of disease we need to understand the population biology and genetic structure of pathogen and saprophyte (from which pathogens emerge) populations: factors such as the extent of recombination and the distribution of putative “disease causing traits” are of central importance.

The BSPP provided me with fellowship to do a two-month project at the University of Auckland, New Zealand in January-February 2004. The fellowship allowed me to travel to New Zealand and to carry out sampling of fluorescent pseudomonads populations from two plant hosts, bean and sugar beet. I was then able to use these populations, in combination with a population of fluorescent pseudomonads isolated in Britain, to analyse the genetic structure of bacteria isolated from the same host plant and from a different host plant and from diverse geographical locations. This was started (and is still underway) by carrying out multi locus sequence typing of the bacteria. Essentially, a number of genetic loci, housekeeping genes that are under neutral selection, are amplified by PCR and...
sequenced. The DNA sequence is used to determine synonymous and non-synonymous amino acid substitutions that can be used to determine sequence type groups. Inferences can be made about whether there is any evidence of clonal populations of bacteria or whether there is recombination and when combined with ecological niche and location, whether there is ecotypic structure. Added to this, I also analysed the distribution of four gene systems known to contribute to fitness to determine the relative importance of these genes within a population.

Sampling was done from 6 plants each of bean and sugar beet from senescent, established and newly emerged leaves by washes and dilution series, selecting on King’s medium B agar. Fluorescent colonies were picked after 3 days incubation at 28oC and purified to single colonies. Two colonies from each plant and niche were purified and stored. Total DNA from bacterial strains was extracted by Instagene kit (BioRad) and analysed by agar gel electrophoresis. Primers to 14 Pseudomonas housekeeping genes were obtained from Prof. David Guttman (University of Toronto) and Prof. Christopher Dowson (University of Warwick) to test on a sample of 12 strains to determine the best primers to use. After testing, the seven primers chosen were for sigma factor 70 (rpoD), gyrase (gyrB), aconitate hydratase B (acnB), glyceraldehyde-3-phosphate dehydrogenase (gapA), phosphoglucoisomerase (pgi), citrate synthase (gltA), cytochrome c oxidase (coxA). Once conditions were optimised then the PCRs were scaled up to do the entire population. This in itself was a relatively big feat without the benefit of robots! The next stage was to clean up the PCR products and most people do this either with columns (totally unfeasible for 700+ PCR products) or just by precipitation. However, Prof. Guttman and his wife, Pauline Wang, informed me of a method using alkaline phosphatase and exonuclease I which worked a treat. The real crunch came at this point - sequencing. The sequencing dye most commonly used by labs is BigDye, which can be very expensive. To sequence both strands of all PCR products at half-concentration would cost in the region of £5000+, so to reduce cost it was necessary to optimise the reactions using much less. I was fortunate to gain help and advice from Dr Martin Maiden and his colleague Ana Belen Ibarz-Pavon at the Dept of Zoology in Oxford. With their help, I was able to use their robotic setup to reduce volumes and use 1/16th BigDye concentration. The first plate has just been run and appears to have worked successfully. The remaining 13 plates are now to be submitted and then it will be a case of compiling all the sequences, repeating failed PCRs and then doing the sequence analysis.

To date the project has been very successful and I am keenly looking forward to doing the exciting analytical work to gain an insight to the population genetic structure. I certainly hope to be able to obtain at least one good quality publication from the work and to maintain my links to the University of Auckland. To anyone who has not had the opportunity to visit, New Zealand is a very beautiful country with extremely friendly people who made my stay very enjoyable. The climate is similar to Britain, but warmer and brighter (the sun is truly fierce, as my thinning hairline soon discovered!) and despite some people’s preconceptions, it is very much a modern country with good facilities. I was lucky enough to see some parts of the country, including Mount Doom and Mordor (Tongariro National Park) and Hobbiton (Matamata). The coastline and Kauri forests on the North Island are spectacular and the sea very warm. Vineyards abound (wine is very cheap: £2-3 for decent quality wine) and fush and chups, as the Aussies say, is fantastic, with all kinds of unusual fish cooked fresh as you wait. So, although it takes about 24 hours of pure flying time to get there, it really isn’t that
bad once you’ve done it - especially if you are partial to in-flight red wine and films! I would like to take this opportunity to thank everyone in Auckland, particularly Prof. Paul Rainey and Dr Xue-Xian Zhang for hosting me and for their kind hospitality, to Annabel Gunn for taking care of many of the little things that made my stay in the lab so good and to Katrina and Holly Rainey for great food and swimming lessons! I am extremely grateful to the BSPP for providing me with this wonderful opportunity.

Dr Robert Jackson
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University of Oxford

Tane Mahuta (Lord of the Forest), currently the largest Kauri tree in New Zealand measuring 51m in height with a 13m girth.

University of Auckland Symonds Street Campus and Albert Park as seen from the Skytower, the tallest building in the Southern Hemisphere.
Obituaries

Dr Claire Shephard

Margaret Claire Shephard died on 1st February 2004, aged 72, after a short illness. Claire worked for many years at the Jealott’s Hill Research Station of Imperial Chemical Industries (ICI), later to become Zeneca and now Syngenta, where she did distinguished research on the discovery of fungicides for the control of crop diseases worldwide. She was a Founder Member of BSPP, and served as Treasurer.

Claire was born and spent her childhood in North London. In 1952 she gained a BSc degree in Botany at University College, London, and then moved to Imperial College to do postgraduate research in plant pathology - for which there was much more scope at Imperial. She worked on physiological mechanisms of fungal infection. Having achieved her PhD she joined Plant Protection Ltd, an ICI subsidiary company, at Fernhurst. There she was given responsibility for testing new chemicals and new formulations for their activity against a range of fungal diseases of plants in glasshouse tests and small-scale field trials. In 1959 this evaluation work was transferred to Jealott’s Hill, which would become Claire’s research base for some 28 years.

Her research on fungicides ranged from the study of structure-activity relationships, in high-throughput screening programmes on inoculated plants in the glass-house, done in close collaboration with synthetic chemists, through to conducting field trials in crops world-wide. She was an energetic, meticulous and tenacious worker, setting very high standards for herself and those who worked with her. She pioneered many new methods of testing, for example by designing and using controlled-environment rooms to increase the precision and reliability of tests, and by introducing the use of very small plants to minimise the amount of chemicals required for tests and to save space and labour. She made detailed studies of the translocation and persistence of chemicals in plants, through bio-assay and radio-chemical studies, and used the insight gained to develop the most effective ways of timing and placement of chemical applications, in relation to disease management under field conditions. The development of major pyrimidine, triazole and strobilurin fungicides by ICI involved key contributions from Claire and the research teams that she led. Some indication of this work can be found in her review paper on “Screening for fungicides” for the Annual Review of Phytopathology (1987, Vol. 25:189-206).

In 1988 she retired from Jealott’s Hill, and joined the School of Plant Sciences at the University of Reading where for several years her experience and knowledge continued to be used in teaching and in the supervision of research by PhD students.

Claire was elected to the Council of the BSPP in 1986. In 1987, she was appointed Treasurer on the retirement of Robert Priestley. Robert had been the Society’s first Treasurer on its creation in 1981 and during the formative years steered its financial management with caution to establish the Society on a firm financial footing. Claire took advantage of the high interest rates pertaining at the time by deftly moving funds into building society accounts. This enabled the Society to hold subscriptions at competitive rates and to expand its activities by being able to support students and members travelling to conferences with bursaries and travel funds. The successful husbanding of the finances enabled the Society to launch a successful bid to host the International Congress of Plant Pathology in Edinburgh in 1998 with confidence. Claire served
the Society with distinction as Treasurer from 1987 to 1992. In 1993, she was elected to the post of Treasurer of the International Society of Plant Pathology. She served for a five-year term between the 6th International Congress in Montreal and the 7th Congress held in Edinburgh. Here she proved to be a great asset, bringing her meticulous attention to detail and organisational skills to bear on collecting the subscriptions from national societies and individual members that constitute the ISPP.

Throughout her life Claire held a strong Christian faith, and she worked tirelessly for the United Reform Church, as a lay preacher, a church elder and a synod member. She served the wider community in many ways, for example in helping to organise low-cost housing schemes for disadvantaged people, and as a leading member of the Maidenhead NHS Community Group. She was unmarried, but had close relationships with her family and friends. A number of children knew and loved her as a caring and generous ‘auntie’, real or surrogate. Claire will be remembered with respect and affection for her many contributions to plant pathology, the church and the community.

Keith Brent and Nigel Hardwick

Claire Shephard taken at a joint reception held between the ISPP Board and Organising Committee of the 7th International Congress of Plant Pathology (ICPP98) at the Royal Botanic Garden, Edinburgh, 1997.

Left to right:
David Ingram (President ICPP98), Alison Ingram, Claire Shephard (Treasurer ISPP), David Royle (Programme Organiser ICPP98), Mike Winfield (Vice-President ISPP), Jim Cook (Past President ICPP98), Gareth Jones (Treasurer ICPP98), Peter Scott (Chairman ICPP98 and Vice-President ISPP), Dick Hamilton (President ISPP), Elizabeth Rennie, Bill Rennie (Local Organiser ICPP98).
Derek Henry Lapwood
(1929 - 2003)

We were saddened to learn that Derek Lapwood died suddenly of a heart attack in February 2003. Derek was awarded a Ph.D. by Imperial College in 1953, for his work on the role of pectic enzymes in the pathogenicity of bacteria, but his scientific career was then put on hold while he did his National Service with the RAF. He joined the Plant Pathology Department at Rothamsted in 1955, working under Fred Bawden on the epidemiology of potato blight. He made important contributions to understanding the foliage factors associated with field resistance. He also demonstrated the importance of tuber blight, and developed routine methods for testing the resistance of tubers for use by breeders. In 1962, he spent 6 months in Mexico working on blight with the eminent scientist Dr. John Niederhauser as part of the Inter American Potato Improvement Programme. Derek was one of the first to recognise the growing importance of tuber blemishing diseases (as more and more of the potato crop was sold as washed and pre-packed produce), and did some particularly elegant work demonstrating the important influence of soil moisture on the infection of tubers by common scab. He showed that only a few days of dry soil at the time tubers are being initiated can lead to serious damage but, conversely, ensuring that the soil is moist at that time (by irrigation if necessary) can significantly decrease amounts of scab and increase the acceptability of tubers to processors and consumers. Latterly, his attention moved to bacterial soft rots of potato caused by *Erwinia spp.*

In a promotion proposal by P H Gregory in 1966, Derek was described as “immensely industrious, fertile in ideas and almost passionately dedicated to the subject of potato pathology”. None of us who knew him would disagree. He also contributed to the wider scientific community through his activities with various learned societies. He was a founder member of the BSPP and an editor of Plant Pathology from 1985 to 1989. He was also programme secretary of the British Mycological Society and an Editor of the Annals of Applied Biology. He was a very warm-hearted person who was especially supportive of younger scientists. He had a lively sense of humour and was particularly fond of (sometimes excruciating!) puns. He was also a keen philatelist. After retirement in 1984, he continued to take an interest in the work of the Institute in general and of the Plant Pathology Department (Plant-Pathogens Interactions Division) in particular. We extend our sympathy to his wife Christine and his two children John and Anne.

Derek Lapwood
New Disease Reports is an international, on-line journal, published by the British Society for Plant Pathology. The journal publishes succinct new and significant records of plant diseases, including those caused by bacteria, fungi, phytoplasmas, viroids and viruses.

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