

Gradline

SGM student scoops national prize

The finals of the *Promega Young Life Scientist of the Year 2002* took place at the spring meeting of the Genetics Society in York on 21 March. Tracey Duncombe chats to Rut Carballido-López about winning the prize.

The prestigious title of *Promega Young Life Scientist of the Year* and a cash prize of £2,000 were awarded recently to SGM student member Rut Carballido-López, a Spanish student working at Oxford University with Professor Jeff Errington. Rut gave a presentation entitled *Bacterial Cytoskeleton: Cell Shape Determination in Bacillus subtilis*.

Eleven regional finalists, chosen by five different societies, presented talks to a panel of 10 judges, which included microbiologists Professor Colin Harwood and Dr Jim Brannigan. Professor Harwood commented that 'the standard of all of the talks was outstanding but the judges were unanimous in choosing Rut as the *Promega Young Scientist of the Year*'. He added that 'Rut's work provides us with important insights into fundamental issues relating to cell wall architecture and synthesis that have remained a mystery for more than 30 years'.

and dots and it was only after trying many conditions for immunolocalization and analysing many images that we started to realize that the structures could be helical. Then, to try to clarify the 3-D form of these structures, I started focusing up and down the cell, taking optical slices and stacks of images through the z axis of the cell and deconvolving them until the helical structures were resolved. We have very powerful microscopy tools in the lab, and very good software packages for image acquisition and processing so, after many hours "playing" with them, I produced my movie', explained Rut.

The competition

The *Promega Young Life Scientist of the Year* competition has been running for the past 5 years in conjunction with the SGM, the Genetics Society, the Biochemical Society, the British Society for Immunology and the British Society for Histocompatibility and Immunogenetics. The finals of the 2002 round to select the SGM Promega Prizewinners will take place on 17 September at the Society meeting at Loughborough. Competing for the two prizes of £200 and places in the Young Life Scientist finals 2003 will be the following:

Stefanie Gehrig (Dept of Plant Sciences, University of Oxford) *Localization of the protein cluster producing an acetylated cellulose polymer in the plant-colonizing bacterium Pseudomonas fluorescens*

David Turner (Division of Microbiology and Infectious Diseases, University Hospital, Nottingham) *AspA, a novel, conserved, immunogenic and surface-exposed meningococcal autotransporter protein*

Michelle Barr (School of Animal and Microbial Sciences, University of Reading) *Environmentally induced genes of rhizobia*

Olivia Champion (Dept of Infectious & Tropical Diseases, London School of Hygiene & Tropical Medicine) *Construction of a gene-specific composite Campylobacter jejuni DNA microarray*

Douglas West (Centre for Veterinary Science, University of Cambridge) *Characterization of a DhasA allelic replacement mutant of Streptococcus equi subsp. equi*

Natalie Simpson (Dept of Biochemistry, University of Cambridge) *Regulation of carbapenem production in Erwinia spp.*

Andrew Macdonald (School of Biochemistry and Molecular Biology, University of Leeds) *Functional consequences of interactions between HCV NS5A protein and Src family kinases*

David Woodhall (Dept of Medicine, University of Cambridge) *The human cytomegalovirus 72 kDa major immediate early protein interacts physically and functionally with a constituent of ND10 bodies, hDaxx*

Louise Bailey (Dept of Zoology, University College Dublin) *Strain typing of Mycobacterium bovis*

Full details of how to enter the Promega Prize are available on the SGM website.

Practice makes perfect

Mention public speaking to some people and they might run a mile. Other people actually enjoy the experience. As Rut says, 'I haven't given many presentations in the past, but I'm OK when I do them and I actually have fun when I get up there. I do get quite stressed beforehand! It's probably a question of practice.'

Up until now my main concern has been the language problem. My English is more or less fine to say what I want to say, but it's not the same being "really fluent" when you lack all those linking words that make the talk smooth. Also, you cannot be that spontaneous or make a funny comment, and I am always worried about not understanding the questions that people ask. So I guess I'm not as comfortable as I could be.'

'Strangely though I was fine just before the final (whereas I was panicking before my SGM talk as I found out that I had less time than I had practised for). This time I practised more. My talk was similar, but not the same as the one I gave at the UEA meeting. I kept most of the figures and the 3-D rotational graphic, but I added another time-lapse movie and some new results from recent experiments', said Rut.

Making movies

'The structure of the protein I work on is difficult to represent as a flat image because it is helical, so I opted to make a 3-D reconstruction and a movie. I first made some *B. subtilis* mutants of this protein and the cell-shape phenotype was really interesting, so we thought that the subcellular localization of the protein could provide an insight into its function, which it did! I purified the protein, raised antibodies against it and localized it by immunofluorescence microscopy. But I obtained a very complex pattern of transverse bands



ABOVE: Rut (second from left) receiving her prize from Euan Forbes (second from right) of Promega. The trophy is a reproduction of a lab in blown glass complete with a couple of benches and fine detail such as tubes and flasks, etc.

PHOTO RUT CARBALLIDO-LÓPEZ