CCLRC

Spectrum

Latest staff news and events

March 2004

BITD stops Mydoom becoming your doom

If you think the media over-hypes the problems caused by computer viruses, think again! Since the end of January, antivirus systems operated by the Networking groups at RAL and DL have rejected an unprecedented number of emails containing the Mydoom virus.

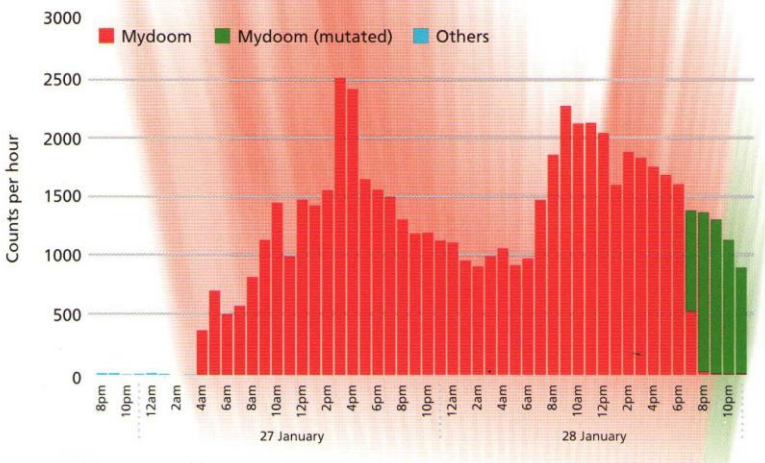
BITD's Networking Group is responsible for the first line of protection against email viruses such as Mydoom. All email coming onto site is routed through a set of 'mail relay' machines, which examine each part of every email.

Mydoom arrives as an attachment to an email. If the attachment is opened, Mydoom sends out copies of itself to other email addresses found on the user's machine. It has clogged mail systems and users inboxes and can allow unauthorised access to unprotected computers. The Mydoom virus spread faster than Sobig.F, the virus that crippled inboxes and mail systems last August.

At its peak Sobig.F was responsible for one in every seventeen emails. Mydoom surpassed this, with infected emails accounting for an incredible one in every twelve emails. The experience of Mydoom at RAL was even worse - for significant periods of both days Mydoom accounted for more than 1 in 4 emails.

On a normal day, the team expects to deal with 600 email viruses at the most. On 27 January approximately 25000 emails infected with the Mydoom were stopped by the Networking Group. On the following day a further 35000 infected emails were stopped. At its peak the team were receiving copies at a rate of over one per second. Indeed during some parts of the day they were stopping more emails, due to infection, than they were delivering.

Several weeks later the team are still receiving nearly 1000 Mydoom infected emails each day.



The graph shows the spectacular outbreak of Mydoom. The initial form of the virus is shown in red. The release of a mutation of Mydoom (green) is well defined.

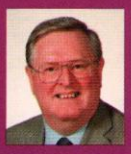
For more information, contact Chris Seelig (c.d.seelig@rl.ac.uk). To see a graph of the last 36 hours of virus counts go to netstats.rl.ac.uk/virus_sta

Inside

STOP PRESS

ThruVision is a winner!

See inside for more details.

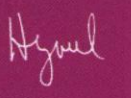


Management matters

In July 2002 the Government set out its vision for the development of science in the UK in its report 'Investing in Innovation: A Strategy for Science, Engineering and Technology'. With the increased funding for science Lord Sainsbury commented "...We now need to see a step change in our rate of innovation." The report also outlined the Government's commitment to involving the Regional Development Agencies in the implementation of the science strategy.

The message from the Government is clear. We will need to forge closer links with all our stakeholders both in our programmes and in the way we run our laboratories. With limited availability of money no duplication will be allowed and teams will be expected to work together more closely than in the past. With this in mind the Campus concept for our two laboratories is vital for a successful future. For all of us collaboration will be the name of the game.

At Daresbury Laboratory, the Campus is a collaboration between the CCLRC, the North West Development Agency, the regional (but not exclusively so) universities and the private sector. Many staff at Daresbury will have been involved in developing the collaborative programmes and will know that we are already well on the way with high performance computing, accelerator science, synchrotron radiation science, instrumentation and other areas are under development. Meanwhile the new Science Park, which will form a part of the Campus, is nearing completion. This is an exciting time and Daresbury Laboratory is now well positioned to meet the challenges that we will all be facing.



Hywel Price
Director
Daresbury Laboratory

What's in a name?

By the time you read this, the Rosetta space mission will have started its 10 year journey to rendezvous with Comet Churyumov-Gerasimenko. The key feature of the mission is to put a lander called Philae onto the surface of the comet. SSTD and the Open University have collaborated to produce the Ptolemy instrument that will fly on the lander. It will analyse samples from the surface of the comet to establish what the cometary nucleus is made from, providing valuable information about these most primitive objects in the Solar System.

But where do the names Rosetta, Philae and Ptolemy come from?

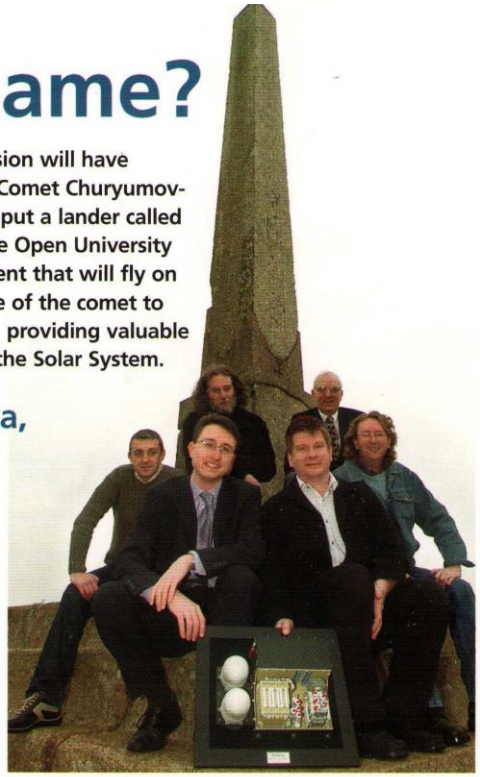
The Rosetta Stone, found in 1799, unlocked the secrets of Egyptian hieroglyphs. It was inscribed in two languages (Egyptian and Greek) using three scripts (hieroglyphic, demotic and Greek).

Philae is an island in the river Nile on which an obelisk was discovered by Sir William Bankes, a British antiquarian. He brought the obelisk back to his Dorset estate, Kingston Lacy in 1821. It has a bilingual inscription including the names of Cleopatra and Ptolemy in Egyptian hieroglyphs.

The Philae obelisk provided the French historian Jean-François Champollion with the final clues that allowed him, in 1822, to translate the hieroglyphs of the Rosetta Stone and unlock the secrets of the civilisation of ancient Egypt.

Ptolemy was an Egyptian pharaoh. The text on the Rosetta Stone was written by priests in Egypt to honour him and lists his achievements that benefited the priests and the people of Egypt. Ptolemy's name appeared in each of the three scripts on the Rosetta Stone and was one of the first words to be deciphered.

Just as the Philae obelisk and the Rosetta Stone provided the keys to an ancient civilization, the instruments on the Rosetta mission will solve the mysteries of the oldest building blocks of our Solar System - the comets.



The Ptolemy project team at Kingston Lacy with a model of their instrument. Back (l to r): Barry Kent (CCLRC), Iwan Williams (Queen Mary University), front (l to r): Simon Sheridan (OU), Martin Whalley (CCLRC), Taff Morgan (OU) and Ian Wright (OU).

You can see the Rosetta Stone in the British Museum (www.thebritishmuseum.ac.uk).

Kingston Lacy is now owned by the National Trust and is open to the public. (www.nationaltrust.org.uk)

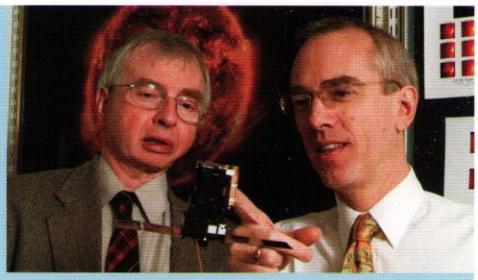
Further information on the ESA Rosetta mission and its lander can be found on www.sci.esa.int/rosetta or www.ssd.rl.ac.uk/RosettaModulus/

RAS Awards

Congratulations to Richard Harrison and Pat Wallace in SSTD who have been awarded medals by the Royal Astronomical Society.

Richard received the 2004 Chapman Medal for his "outstanding contributions to understanding the nature of solar eruptive phenomenon and the impact of these eruptions on solar-terrestrial relations." The citation also notes that Richard "has played an outstanding leadership role in the past decade with his unselfish sharing of data and expertise from the Coronal Diagnostic Spectrometer on the SOHO spacecraft, and in more general dissemination of solar science to the general public."

Pat was awarded the 2004 Jackson Gwilt Medal and Gift for his "outstanding contributions to the development of precise, accurate, dependable and rigorous telescope pointing software."



Pat Wallace (l) and Richard Harrison (r) with a model of the SOHO spacecraft.

"The consequences of the application of his software to modern telescope computer control systems are hard to over estimate. Put simply, the discovery power of a telescope is a function (amongst other things) of the amount of observing time available. By significantly increasing the observing efficiency of many of the world's finest telescopes, Pat has played a key role in numerous advances and discoveries, although his name may appear on only a small sub-set of the resulting publications."

ThruVision is a winner!

ThruVision, the new spin-out company developing terahertz imaging for the security industry, has won the Research Councils' Business Plan Competition. The competition provides support, mentoring and training to develop high quality business plans to commercialise research carried out in UK universities and research institutions.

Lord Sainsbury presented the award of £25,000 and a specially commissioned glass bowl at the final on 24 February. "This competition highlights how world class UK science is being put to use for the benefit of us all, he said.

Jonathan James, the newly appointed CEO for ThruVision, was delighted with the award which came a day after the company won another business award from the Rainbow Seed Fund.

"I'm thrilled to win this award on behalf of the ThruVision team," said Jonathan (pictured above). "I'd particularly like to thank everyone in SSTD who have provided such excellent support and technical expertise. This prize money has come at absolutely the best time for ThruVision, just as we are spinning out from CCLRC."

The real benefit of ThruVision's technology is that it is compact and safe. "Our camera simply 'looks' at people without illuminating them with any form of radiation", explains Jonathan.

Over the past 12 months the ThruVision team (as RAL employees) have built and demonstrated the world's first compact terahertz camera for security screening applications. A working prototype has successfully imaged objects concealed under clothing including guns and explosives.

Oriental engineering

Mike Lowe, an electrical apprentice at DL, was offered the opportunity of a lifetime when he was selected as part of an engineering student exchange scheme between Mid-Cheshire College, which he attends on block release, and Kumano College in Japan.

After a 12 hour flight, Mike arrived in Osaka. He and his fellow students and lecturers were then driven for a further four hours to Kumano. As part of the exchange scheme, Mike stayed with a host family and was able to sample Japanese hospitality. He spent four days in Kumano, visiting the engineering department at the college where he was able to compare the facilities and curriculum with his college in Northwich. He also discussed the exchange scheme with Chinese and Japanese students and got to know other students at the college.

Reflecting on the discussion, Mike said "At first I didn't really see its relevance to the visit but we talked about how beneficial these exchanges are. Each nationality had very different views but everyone made excellent points and it was a big success."

The Golden Pavilion at Kinkaku-ji Temple near Kyoto.

Mike behind the wheel of a solar powered car built by students at Kumano College as part of their electrical engineering course.

The group then moved to Kyoto for sightseeing including a visit to the largest Buddhist temple in Japan. The last day of the trip was spent sightseeing and shopping for souvenirs before a final night meal in a traditional Japanese restaurant. "By now I had acquired the taste for raw fish, sushi, rice and noodles and was really enjoying Japanese food... although I was a bit apprehensive when we first arrived."

"My favourite part of the trip was visiting Kyoto city where it was busy all through the night. I hope that members of my host family and especially the son, Yukki, will come and stay and I can show them around our area of England in the same way that they did for me in Japan."

Dates for your diary

12-21 March

National Science Week

Events around the country and at each of our laboratories. Get involved and help inspire the next generation of scientists and engineers!

17 March (RAL) 7.30pm - public lecture*

'Science fights crime'

Join a team from the Forensic Alliance to learn more about the forensic process - from crime scene, to lab to court. (age 14+).

Contact Lisa Faircloth on ext. 5789 for more information.

19 March (DL) 7pm - public lecture*

'Using the Synchrotron to design new drugs' ***by Dr Chris Pickles***

How do you design a new drug from scratch? How do you control the release of the drug into the body and protect the research investment? (age 16+).

Contact June Prince on ext. 3488 for more information.

22 March (DL) 7pm

The Ig Nobel Prizes Tour

The Ig Nobels are awarded for the world's most original research. Highlights of the evening will include why the brains of London taxi drivers are more developed than those of their fellow citizens and what percentage of students dislike the taste of brussels sprouts. Presented by Times Higher Education Supplement in partnership with the BA.

To book your place: call the credit card hotline on 020 7019 4941.

Tickets are £5, £4 for concessions or £10 for a group of 4.

28 March - British Summer Time begins

Don't forget to put your clocks forward 1 hour!

23 April (DL) 7pm - public lecture*

'The Secret world of codes and code breaking' ***by Claire Ellis***

Trace the history of codes from the ancient Greeks to WW2 when the Enigma machine allowed German codes to be broken and give the Allies vital information. (age 9+).

Contact June Prince on ext. 3488 for more information.

*Please note:

- *The public lectures at DL and RAL are oversubscribed. If you book a place and are then unable to attend, please contact the organiser so that your place can be offered to someone on the waiting list.*
- *The minimum age for each event ensures that every member of the audience will understand and enjoy the lecture. Younger children are likely to find the content of the lecture too complex.*

Have you got an event that you would like included in 'Dates for your Diary'?

Contact the editor with the details.

Seeking **Visions of Science** images

Say hello to...

Chris Aldis (RAL) Mechanical Design & Project Engineer, Isis.

Peter Berrisford (RAL) Data Applications Manager, eScience

Geoff Burton (RAL) Engineering Technician, ED

Dmitry Emeliyanov (RAL) Research Associate, PPD

David Gleeson (DL) Station Scientist, SRD

Cyril Lockett (RAL) Engineering Technician, ED

Jake Snow (RAL) Support Engineer, PPD

Zhi-Jun Xin (RAL) Detector Physicist, ID

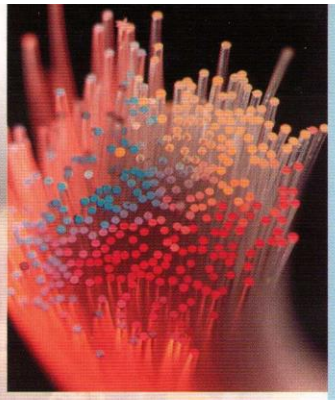
Sarah Langham (RAL) Cryogenics and Laboratory Support Technician, Isis

Does photography bring your work to life and help explain your research and skills to a wider audience? If so, the 2004 Novartis and The Daily Telegraph 'Visions of Science' Photographic Awards are looking for inspirational entries that capture science in creative, surprising or thought-provoking ways.

An exciting new award for 2004 is **Scientists at Work** for images that illustrate scientists at work or portraits that reflect their areas of interest.

By entering Visions of Science, you could be one of the winners in line for prize money totalling over £8,500. The winning images will then tour the UK in an exhibition designed to encourage public interest in science.

As Adam Hart-Davis, photographer, TV presenter and one of the judges, says *"As judges, we want to be smacked between the eyes with pictures that we have never seen before, pictures that demand that we think about some aspect of science or nature in a new way. We don't care whether you use a throw-away camera or a multi-billion-pixel digiwonder; what matters is the picture."*



RAL Photographer, Stephen Kill scooped second place in a similar competition last year with this stunning image of a fibre optic bundle.

The other main categories for the 2004 competition are Action, Close-up, People, Medicine & Life, Concepts and Art.

Further details about the categories and awards can be found on the website www.visions-of-science.co.uk.

Retirement round-up

Alan Chipperfield – *Starlink Infrastructure Programmer, SSTD*

Peter Allan writes: "Alan Chipperfield worked at RAL for 38 years. He wrote software for several projects, but for more than twenty years he was a key part of Starlink, developing the software for use by astronomers all around the world. Alan is held in great respect by those who use it for the quality of the software he has written. He is planning to spend more time in the garden and having retired, he has already discovered that he is so busy he does not know how he ever found the time to come to work. We wish him a long and happy retirement."

Dave Bouch – *SRD Mechanical Technician*

John Manning writes "Dave took early retirement at the end of January after more than 35 years with Daresbury Laboratory. He started work in the Mechanical Workshops in 1968 and soon moved on to work direct on NINA for the Machine Group, and then the Cryogenics Group where he was involved in the assembly, installation and maintenance of beamlines, liquid hydrogen targets, and maintenance of the High Energy Physics experiments. In 1976 Dave moved to the SRS Vacuum Group, developing new vacuum assembly techniques for the emerging SRS facility and his continued work on the facility has contributed enormously to its successes. Dave has played a major part in the development of many beamlines and stations on the SR facility, being one of the first non-scientists to act as a beamline Port Coordinator. His knowledge, skills, and enthusiasm will be sorely missed."

Dave Bouch (4th left front row) with colleagues.

Janet Smith – *Resource Assistant*

Janet retired on 24 February after 37 years at RAL. Her friends and colleagues would like to wish her a very happy retirement.

L&D News

Standards of Management Excellence

What are the key skills, abilities and personal attributes that the CCLRC seeks in its managers?

Actually, there are 13 competencies that make up the CCLRC Standards of Management Excellence (SME) framework. They help managers understand what is expected of them, provide a common language for describing effective performance and identify training and development needs which enable people to perform at a higher level within their role.

If you would like to find out more and improve your effectiveness as a manager, the 2004/2005 course programme for the SME has now been finalised. Details are as follows:

Senior Management Development Programme

Courses at Warwick Conference centre on
- 5-6 May 2004
- 14-16 June 2004
- 4-6 October 2004
- 2-4 February 2005

Foundations of Management Excellence

Courses at Walton Hall, Walton
- 20-22 April 2004
- 19-21 October 2004

Courses at the Harwell Conference centre
- 28-30 June 2004
- 22-24 February 2005

These courses are always popular and places are limited so please get in touch with your local Learning and Development team for more information or to reserve a place.

Tai Chi

Tai Chi is an exercise system that combines slow, graceful movement with calm, regular breathing. It is becoming very popular as a means of maintaining good health and feelings of relaxation and calm.

We will be hosting a Tai Chi learning lunch at RAL on Wednesday 9 June 2004. Why not come along and learn more about this fascinating subject and practise a few of the exercises? More details nearer the time.

Have you got a story for Spectrum?

Contact the editor, Steph Presland on ext. 5398 or by email to **s.presland@cclrc.ac.uk**

The deadline for the next edition is 19 March 2004.