



# TSN News

## Sixth-Form *Food and Biotechnology* Conference

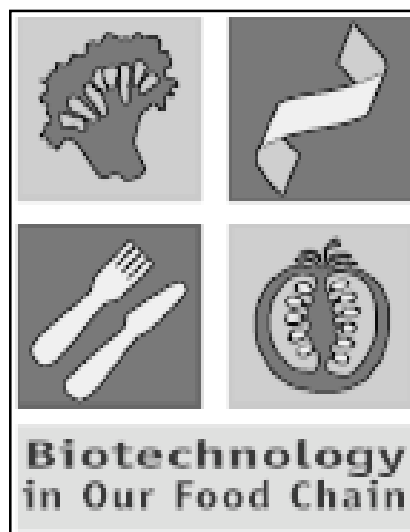
**B** iotechnology in Our Food Chain is a collaborative project between the John Innes Centre, the Teacher Scientist Network, and the Institute of Food Research. It involves a group of Norfolk sixth-formers and the public. It began during SET week in March and will end in June. Biotechnology in Our Food Chain will focus on the issues related to food production and consumption now and in the future, and the impact of biotechnology.

To start off the project, students from Wymondham College and Hethersett Old Hall School came to the John Innes Centre to hear four 'experts' (two scientists representing food and plant biotechnology, a journalist and a representative from the Green Alliance)

present their topics, to answer the students' questions and to discuss the issues with them.

The Students will now ...

- carry out a survey of public opinion—both locally, and more widely via the Internet—on the use and impact of biotechnology in society;
- research specific scientific and social issues such as *Biotechnology in Agriculture, Healthy Eating, Public Perception of Biotechnology, Biotechnology and the Environment, Biotechnology and the Third World, and Consumer Issues.*
- On 24 June 1998, they will present their findings at a half-day



conference at the John Innes Centre, open to the public and other sixth-formers, and

- publish the results of their research projects and survey as a printed report in September, and on the Internet.

You can find out more about Biotechnology in Our Food Chain on the Internet at:

<http://www.tsn.org.uk/news/upcoming/biofood.html>



*Students construct the Public Opinion Questionnaire*

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# TSN's New Web Site

Aedan Kirnan

We have a new web site. But, unlike most web sites, the TSN web site is not aimed at the general public. Instead, it is designed to provide TSN's members with useful information. We hope that the web site will be a place you come back to again and again.

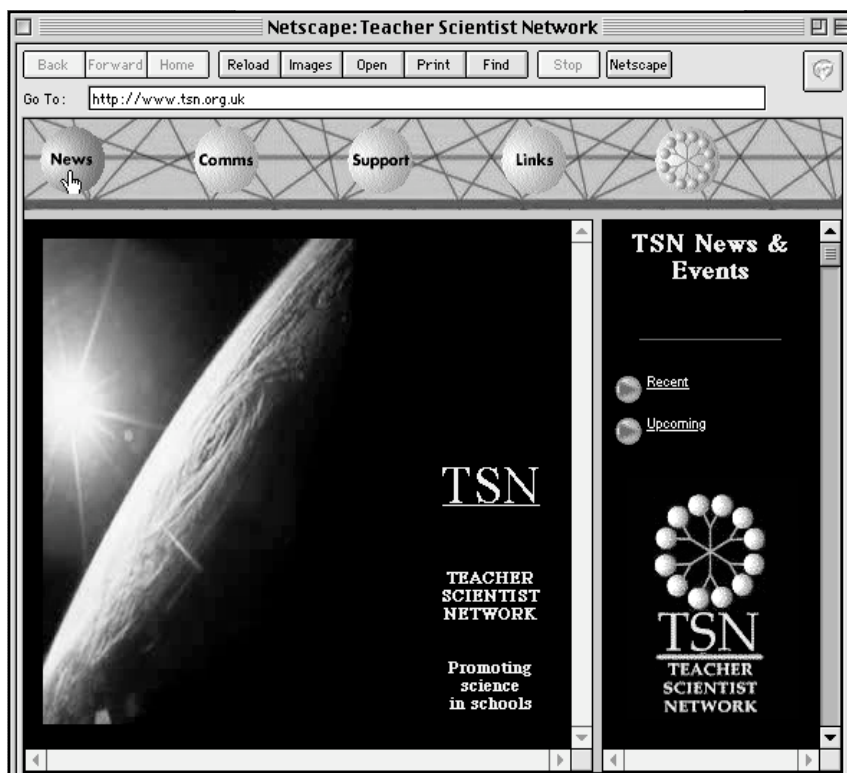
The web site has five main areas, each one accessible by clicking appropriate buttons:

1. The News section includes details of upcoming events, meetings, and future developments, as well as reports on past events.
2. Comms contains a directory of teachers and scientists in TSN. Where we have an Email address for you, it has been included so that members can contact each other easily. There will be links to individuals' home pages too, for those who have them. This section also contains discussion groups. This is intended to be TSN's letters page, question and answer section, and noticeboard—all in one.
3. The Support section contains case studies from teachers and scientists—ideas that partners have tried out. As this section builds up, it will also provide information on classroom loan kits, details of mini-grants and a library of useful documents which you can download when you want them.
4. The Links section contains links to other sites of interest on the Internet—from curriculum information to science news.
5. The final section provides background information on TSN itself.

We hope that the web site will be able to address a number of issues which you raised when answering TSN's last questionnaire. For example, you emphasised the need for a close and co-operative relationship between teacher and scientist—we think that Email could help here. It will enable teachers and scientists to share their plans more easily, and help to keep them in frequent contact.

As they grow, the discussion groups, together with the Support section, should provide you with another item from your wish list: a bank of tried and tested ideas and experiences which can be used in classroom situations.

This web site is not complete—it will never be. Unlike a paper document, it



can be constantly rewritten and refined. It is intended to be an information exchange—not just an information resource. TSN gives you the opportunity to publish as well as to consume information: there are no restrictions on space. The more you use the site, whether it is asking questions or answering them, the better it will become.

## Viewing TSN on the Web

Some early web browsers will not be able to display the new site. To allow us to split the screen into more than one window we use 'Frames'. The earliest browsers are not capable of displaying Frames. And in the expandable contents' lists we use Javascript which, once again, early browsers are not capable of displaying. For best results you may need to upgrade your browser (this is free). You should use Netscape 3 or later or Internet Explorer 3 or later, and make sure that Javascript is enabled.

## How the Site Works

There are three windows. The top

window contains five buttons linking to the five main areas: News, Comms, Support, Links and Background Information on TSN. Clicking on a button will call up a contents list on the right for that subject area. Clicking on an arrow button in this list will call up yet more details. Anything you choose from the contents' list in the right hand window will appear in the main window on the left.

- Have you an Email at home or at work which we should include?
- Would you like to write a case study?
- Have you a question for other TSN members?
- Would you like to start a discussion group?
- Have you a good idea you could share?

Email TSN on:  
frank.chennell@bbsrc.ac.uk

**Our new website address is: <http://www.tsn.org.uk>**

## Education Workshop for Scientists

The second of our afternoon education workshops was held in January 98 for scientists who wanted to know more about educational issues. Topics included the National Curriculum, school and LEA organisation, and aspects of how teachers teach and how children learn. Scientists from the Norwich Research Park and from local Industry attended. Another Education Workshop will be run at a later date.

## Teachers want Loan Kits

A number of our teachers say that loan kits of equipment would help them deliver certain areas of science. Primary teachers, for example, say that looking at small things in their lessons is a problem because their normal optical equipment is not robust enough and has such poor optical quality that children find it difficult to use. Good quality equipment is too expensive. Other activities need fairly simple equipment, but it needs to be robust and ready to use so that teachers do not have to spend time making or adapting or mending. The BBSRC seed kit is a good example: everything the teacher needs is in the kit, some of which may be kept after the kit is returned for refurbishing. We have several of these kits for teachers to borrow.

### TSN will produce kits

We now have funds to produce more kits. A grant from the Gatsby Charitable Foundation will enable us to produce up to forty kits in the next year or so. TSN is now working with the County Science and Technology Centre to produce these kits, and John Mallott, the County Science Technician, will help us to develop and manage them. When they are ready, they will be available to all schools in the Network area, although TSN schools will have first choice. If appropriate, there will be accompanying training for the teachers supplied by TSN scientists.

Some kits will be developed from ideas generated by TSN partnerships who have used our mini-grants, some will be produced in response to suggestions from teachers and scientists, and others might be bought in ready-made.

These are the kits that we are likely to be producing first together with their proposed target groups:

- Paper making and investigations (key stages 1-3)
- Microscopy (key stages 1-3)
- Plant identification (key stages 1-3)
- Very long wave e.m. radiation monitoring (key stage 4)
- UV and visible light Spectrophotometry (sixth form)
- Composting investigations (key stages 1-3)
- Forces (key stages 1-2)

If you have a good idea for a kit, please let us know.

## Microscopy Course for Primary School Teachers

Nineteen TSN primary school teachers came along to the John Innes Centre in February to a course run by Dr Juliet Dyson of the Royal Microscopical Society. She introduced a selection of suitable microscopes for primary classroom use and encouraged the teachers to use them for the next 2 hours to look at a wide range of living and non-living materials. She also showed the teachers how to...

- produce specimens that cost nothing or very little;
- keep living material;
- start a simple classification system;
- make 'slides' using card and a glue stick, and
- use the microscope across the curriculum to include geography, art and history as well as science.

There was no charge for the course and TSN paid for ~60% of each teacher's supply cover costs.



## Full Circle in San Francisco

TSN modelled itself upon a San Francisco teacher-scientist scheme that began over a decade ago. It was called the Science and Health Education Partnerships (SEP) and linked, in



one-to-one partnerships, local school teachers with volunteer scientists from the University of California at San Francisco (UCSF). Over the years, these partnerships became peripheral to other important SEP initiatives, and began to die out. Realising just how valuable the original partnerships were, SEP is now

about to revive the programme. Here is an extract from their latest newsletter.

*'SEP began back in 1987 with equipment and supply donations and individual one-on-one partnerships between (local) teachers and UCSF (scientist) volunteers. Many of these partnerships were very productive. ... Partners worked together to create structures that were tailored to the needs of the teacher and the resources of the volunteer.'*

*In an effort to provide more opportunities for teachers and scientists to work together SEP has created or worked with a number of programs over the years to provide structure and support for teacher-volunteer partnerships. These various programs provide different structures for teachers and volunteers to work together but each is centred on the idea of the teacher and the volunteer as partners working together to create value for their students.*

*SEP partnership programs have grown and changed with each passing year, and have provided a wealth of opportunities for UCSF volunteers to work in the San Francisco schools. The development, implementation and coordination of these programs, however, have taken time and attention away from individual partnerships to the point where few exist. Recognizing the value that exists in such partnerships SEP is embarking on a renaissance of the individual partnership program. We hope to take the best of the independent partnership experience together with what has been learned from more structured programs to create a support structure for new partnerships to form and flourish. As a beginning, a small pilot program of partnerships with elementary school teachers is being put together.'*

Perhaps the TSN can learn once again from SEP's experience to ensure that our partnerships remain at the centre of our activities.

## Cosmology Master Class coming soon

Our next Master Class will take place on 19 June 1998 at UEA. It will be, as always, a whole day session aimed at bringing teams of science teachers up to date in their own science: in this case cosmology. We always try to have leading scientists in the field at our master classes and this one will be no exception. We are very fortunate in getting, amongst others, the following speakers:

- Prof. Neil Turok, who works with Stephen Hawking at the Department of Applied Maths and Theoretical Physics at Cambridge University. He will talk about the origin of the universe and the latest thinking that he and Stephen Hawking have on this subject.
- Dr Robin Catchpole, of the Royal Greenwich Observatory, who will talk about Stars and their evolution and possibly about the deep space probes by the Hubble telescope.
- Prof. Carl Murray, at Queen Mary College, London, who is a member of the Imaging Team for the Cassini Mission to Saturn and Titan. Prof. Murray will talk about the Solar System and the Cassini Project.

The afternoon will be spent in related practical activity.

Although the Master Class is designed for high-school and sixth-form teachers of physical science, teachers of other subjects, or at other schools who have a very keen interest in cosmology, may also apply. But please remember that TSN Master Classes are to help update the teachers' own science base—they are *not* designed to give teachers



classroom activities and ideas or curriculum packs suitable for children's use.

Apart from a modest registration fee, TSN will pay all expenses, including each teacher's supply cover costs. Watch out for the flyer to be sent out with more details soon. You can get the latest information from <http://www.uea.ac.uk/~e490/tsn/tsn.htm>.

## New TSN Members Welcome

Mrs Dawn Arden Classteacher, Shelton CP School  
Mrs Ann Bealing Acting Headteacher, Barnham Broom GM Primary School  
Dr Rosemary Clarke Research Scientist, Institute of Food Research  
Miss Jane Cole Science Coordinator, Mattishall Middle School  
Mrs Pamela Crisp Teacher, Lyng VC Primary School  
Mr Stephen Dye Teacher, Stadbroke High School  
Mrs Henrietta Essex Deputy Headteacher, Little Plumstead C E V A School  
Mr Tom Fox Research Scientist, Institute of Food Research  
Dr Chris Foxall Senior Research Scientist, School of Environmental Sciences  
Mr Neil Gordon Head of Chemistry, Blyth Jex School  
Dr Ann Graham Research Scientist, Institute of Food Research  
Mrs Susan Hooper Science & IT Coordinator, Freethorpe School  
Miss Zoë Ladbroke Research Scientist, John Innes Centre  
Ms Rachel Pinder Research Technician, John Innes Centre  
Mrs Yvonne Reynolds Headteacher, Colby C. Primary School  
Ms Anne Robinson Deputy Head, Heather Avenue First School  
Mr Mark Roe Research Scientist, Institute of Food Research  
Miss Caroline Spinks Research Scientist, Institute of Food Research  
Mr Gary Wortley Research Scientist, Institute of Food Research

## The Secrets and Science of Survival 1999

Another joint event involving Anglia TV's Survival, the John Innes Centre and the TSN will take place 10-19 March 1999. This time, the theme is 'The scents of smell'. There will be live animals and plants from around the world, computer graphics, special equipment, many displays and an interactive talk by Mike Linley—Survival's scientific adviser. The event will be offered to schools in the Norfolk region (morning and afternoon sessions) and to the general public on certain evenings. It will take place in a jungle atmosphere created in the John Innes Centre's Conference Building with hundreds of plants and smells of the forest. Details will be sent to schools later this year.



### Teacher Scientist Network

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(<http://www.tsn.org.uk>)