Examples what you could do on Plant Day 2012 are provided here:

Scientists at work – from VIB, in EPSO NEWS 16

scientists @ work: scientist for 1 day!

Science in school is often limited to a theoretical explanation. However, the trials, the invention and testing of new methods is an important part of science, but what high school has a fully equipped lab with the latest materials and any expertise?

The solution seems simple, but is unique in Europe: invite young people and their teachers to the laboratories! Scientists @ work (Belgium), creates a bridge between education and research. It works with an interdisciplinary approach — all within a stimulating environment. Scientists @ work takes young student scientists to sample the work of a professional scientist, hoping that this will encourage them to choose a scientific training.

We offer teachers and their pupils from upper school the possibility of hands on experience of scientific laboratory procedures in the life sciences to true academic and industrial laboratory standards. Those teams who carry out the best work are rewarded with great prizes for the whole team.

Typical examples of previous laboratory experience include:

To create an anti-biogram; Creation of pharmaceutical proteins in plants; Demonstrate germ exhibit DNA for the sexing of birds and detection of freemartinism in cattle;

Alternate methods: less animal testing as a result of in vitro testing; Angiogenesis and neurogenesis: a new link and common genetic code, studied with functional genomics; Blood: an endless source of information; Diagnostics and study of the swarming movement of the hospital bacterium *Pseudomonas aeruginosa*; Analysis of plants using molecular DNA markers; A new gene in my bread?; A new influenza vaccine?; Does the egg white reveal its secret? Genetics at the DNA level;

Targeted plant breeding by using advanced sequencing technologies; Heart and blood vessels: PlGF; Do I have sleeping sickness, yes or no?; HIV-Lab: detection of and fight against hazardous micro-organisms; How sustainable is bioenergy? How do brain cells talk?

How safe is our water?

Scientists @ work hope to show students many aspects of real science carried out for scientific research. Teamwork is required to process the results and accordingly this is why we invite school teams to experience working together under a single project.

The final presentation of the team's results must be composed of:

- A description of the project
- The results of the techniques
- Discussion and conclusions
- Observations on working with the scientists

To be eligible for the final contest, the reports from teams having completed a project must fulfill all of the criteria stated previously and be submitted in a timely manner. An independent jury will then select 10 winners.

This year, this final event takes place in Ghent, on 12 May 2010. Their posters, presentations and defence must convince the jury! For the 3 winning teams there are very smart and encouraging prizes.

In 2010, the first prize is a trip to Valencia, Spain and includes an access ticket for the exhibition 'Life and Genome "in the 'Ciudad de Las's Artes y las Ciencias de Valencia". The second price is a weekend in the Ardennes.

The third prize consists of coupons. All prizes will be handed out during the final event. In addition an iPod is awarded to the best individual student write– up on the team pages.

The prizes are for up to 15 students and 2 teachers. Although it is the pupils who have effectively contributed to the end results that qualify for the prices, teams that are the first or second prize winners must be accompanied by at least 1 teacher.

Scientists @ work as it was...

Scientists @ work started in the academic year 2003–2004. A comprehensive overview of the first editions can be found here.

More than 800 young people began in October 2003 with a project and 43 project mentors willing and available to help them. The main prize was a trip to Ireland, which was won by the school, Holy Family in Sint-Niklaas, Belgium.

By the sixth year of the programme (2008–2009) 1600 pupils experienced real science for a day and 160 scientists offered them 62 different projects. On 13 May 2009, the 10 winners spoke confidently about their research in the University halls of the KU Leuven.

Scientists @ work has introduced a meaningful and interesting programme to encourage young minds to think about entering a field of science as a career. They run the sessions successfully and the evidence of continuing participation each year shows that this is a well-received example of outreach into the community.

Contact: Sven Verheyen

Bus lines – from Fraunhofer, in EPSO NEWS 15

Fraunhofer Bus Lines, Aachen, Germany

Six buses and 20 bus stops of the public transport in Aachen (ASEAG), along the "Fraunhofer lines" routes: buses 3A and 3B, are provided with the logo and information of the Aachen Fraunhofer Institute.

This is an unprecedented concept using public transport in Germany and a new, highly customised information platform for passengers and cooperation partners from the cities of the Aachen region to advertise an Institute's programmes and training opportunities. The Aachen Fraunhofer institutes have launched this initiative to inspire new recruits to the scientific–technical field.

In addition, student magazine "News from Fraunhofer" will pick up on technical topics of the institutes and show the people behind it — to show students the amazing opportunities Fraunhofer can offer them in the fields of biotechnology, laser technology and production technology.

Fraunhofer Institute's strengths lie in combining research, technology and the transfer of this through to pilot production lines. Fraunhofer also puts emphasise on inspiring more female trainees in these areas.

In Germany, there is currently a shortage of around 40,000 engineers. However, the Aachen region has RWTH Aachen, Aachen University of Applied Sciences and other research organisations offering the best career conditions to address a substantial part of Germany's needs in scientific and technically trained academics.

However, before young people will choose to begin studies in this area their interest must be initially aroused in a technical discipline and this is where the public transport advertising comes into play.

CEO of the Aachen public transport company,

Hans-Peter Appel summarised that the concept of the bus line sponsorship and strong regional ties will better inform the public — at bus stops and inside/ outside the buses — of career opportunities available within the region.

Buses number about 300 per day with more than 220,000 passengers, plus citizens who stand at the bus stops and see the buses in the City.

Contacts: Rainer Fischer; Stefan Schillberg

Globe Garden – from Julich, in EPSO NEWS 15

The GLOBE Garden

The GLOBE Phenological Garden at the Forschungszentrum Jülich is a collaboration between two institutions of that research centre, Schülerlabor (school students), the Phytosphere Institute as well as the Realschule Jülich (main senior school).

Pupils helped to plant and design the garden in 2007 and they are responsible for the phonological observations as well as the data entry into a common database with all other GLOBE phenological gardens as well as other GLOBE projects around the world.

The GLOBE Phenological Garden is part of the worldwide GLOBE programme. (Global Learning and Observations to Benefit the Environment). This program links research and education on environmental issues.

Its goal is to allow pupils to actively contribute to experiments on the interacting of all environmental compartments (climate, water, soil and plants) by long term observations of environmental significant parameters. GLOBE phenological gardens exist all over the world (regarding the mean latitude).

Phenological phases such as 'beginning of flowering, general flowering, end of flowering, beginning of leaf unfolding and full leafs' are observed for eight plant species in the Phenological Garden continuously.

The specimens planted in the garden originate from the same genepool to avoid differences due to genetic variability within a species. The onset of the phonological phases depends on rainfall, temperature, other climatic factors and the light period linked to the specific location.

The following plant species are in the garden: snowdrops, forsythia, lilac, mock-orange, heather “Allegro”, heather “Long White”, witch hazel “Genuine” and witch hazel “Jelena”.

Besides the phenological data, climatic data such as temperature and soil moisture are recorded. All data is

entered in a database of all GLOBE phonological gardens. Observations over several years make it possible to map the phenological phases and potential changes due to climate change. Moreover it is possible to compare phenological data from Gardens all over the world (with respect to mean latitude).

The GLOBE Phenological Garden together with the Habitat Garden, as well in Jülich and to be covered in a future newsletter, are the two activities under the GLOBE Garden concept.

This is a scientific field study site for long term observation of phenological phases in relation to possible climatic changes. As a second aspect the development of plant communities is followed in relation to different starting substrates and the initial composition of plant species (priority effects).

Contact: Susanne Lambrecht

Summer School – from John Innes, in EPSO NEWS 15

John Innes Summer School

The John Innes Centre and Sainsbury Laboratory in Norwich are launching a summer undergraduate research programme for 2010.

The aim is to give promising university students a flavour of research through an 8 week ‘hands on’ lab project and participation in weekly training events. Students will work one-to-one with internationally recognised researchers following a programme of training, research, talks, seminars and networking events.

The programme this year starts on the 5 July until 30 August. Student accommodation is free and there is a weekly stipend of £200.

The programme intends to bring together promising young student researchers to a community of experienced researchers, giving them opportunity to gain new skills and laboratory experience in a world renowned institute with state-of-the-art facilities.

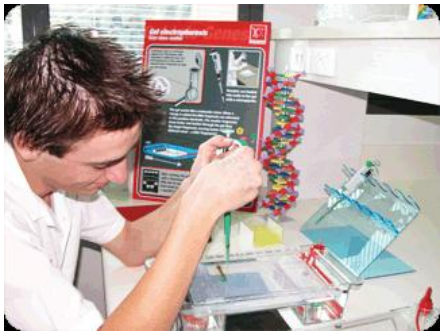
Contact: Dawn Barrett

Get into Genes – from ACPFG, in EPSO NEWS 14

Get into Genes….

…run by the Australian Centre for Plant Functional Genomics (ACPFG) and the Molecular Plant Breeding Cooperative Research Centre (MPBCRC). This is an interactive education programme for secondary school students that highlight the application of biotechnology to crop improvement. It provides students with an insight into the relationship between molecular biology, genetics and plant breeding. The programme is a two-hour workshop designed for students in years 10, 11 and 12.

First set up in South Australia, it has since been expanded into Victoria. 'Get into Genes is a highly successful programme for both ACPFG and MPBCRC," said Education Manager for ACPFG, Monica Ogierman. 'Gene technology is a major component of biology in secondary schools, so providing this outreach programme means that we can offer students a taste of what a science career might be like while helping them to complete their studies.'



The format of the programme begins with an introductory presentation that covers DNA and how it is used in plant breeding. Then students rotate through a choice of four interactive workstations including: Plant breeding; DNA extraction; Gel electrophoresis; Restriction enzymes / molecular markers. Two additional workstations are added for Year 12 students only, relating to PCR.

The session is concluded with a presentation examining transformation and genetic engineering, giving practical and relevant examples of current research being undertaken by the ACPFG and the MPBCRC.

'In 2006, we were thrilled to receive a Cooperative Research Centres Association Award for Excellence in Innovation for Get into Genes. We've had over 10,000 students and teachers through the programme and the feedback we have received is very positive, both from students and teachers.' Said Heather Bray from MPBCRC.

The workshop is designed to be integrated with formal lessons as part of the curriculum in both South Australia and Victoria. Get into Genes is offered as a regional program also and there is a component for professional development for teachers.

Contact: Amanda Hudswell

Inside Science – from JI & Sainsbury Lab, in EPSO NEWS 14

School was really boring after this!

The John Innes Centre, Institute of Food Research, The Sainsbury Laboratory and Genome Analysis Centre based on the Norwich Research Park, UK, have a Communications department which provides their print and e-communications, media and outreach needs from school visits to science festivals and public consultations.

A recent success has been the introduction of a course for aspiring young scientists: ***Inside Science*** is a three day intensive workshop for gifted and talented high school students who hear about the research we do first hand, meet and have lunch with postgraduate students, post-docs and research assistants and hear exactly what it's like to work in science. They prepare their own samples for a scanning electron microscope, learn how to use an HPLC and hear from guest speakers as well as our own international superstars. They also get the opportunity to visit the Bioincubator, where local spin out companies are housed, and learn about intellectual property in science and debate issues such as GM after seeing exactly how plants are genetically modified.

Places are competitive and numbers are restricted to no more than 16 to allow for relaxed and informal sessions. We keep in contact with them after the course using Facebook to track their careers where they

also find it useful to talk to each other about career and university choices and experiences. As a direct result of attending the course students have gone on to get work placements in labs, win national science competitions and choose to go to a local university they were previously unaware of!

Feedback from the course students include statements such as “school was really boring after the awesome talks we’d had!”, “We know more than our teachers!”, “It was amazing to see – let alone be able to use an electron microscope!” and “I had no idea what the opportunities in science were!”

There is a video of this year’s. At the end of the course, they are all presented with a certificate of attendance, a group photo, and an image of their SEM sample. The winner of a competition announced on the first day of the workshop is then also awarded a prize for the best A4 representation of their ‘perception of science’.

If you would like further information on how we run the application process or the course itself:

Contact: Dee Rawsthorne

Mission to explain – from James Hutton Institute, in EPSO NEWS 14

SCRI – Mission to Explain

SCRI, Scotland’s leading centre for research on plants based at Invergowrie near Dundee is home to the UK’s largest potato industry field event and a host of other education and knowledge exchange activities.

The institute’s communications team tackle a range of educational activities concerning any element of food, from production through to supply and consumption.

In 2008 SCRI generated 534 media items and publications relating to these topics and so far, in 2009, has generated more than 575 articles and features in the media. SCRI’s website which contains up-to-date information, articles and press releases, averages more than 60,000 visitors a year.

In particular, SCRI’s Living Field projects include a community garden, a study centre and an interactive educational CD-ROM based on the 5–14yr UK School Curriculum National Guidelines for Environmental Studies: Science. The garden and study centre are used and visited by more than 400 visitors and schoolchildren each year and the Living Field CD is in every school in Scotland and is also available on the website.

SCRI scientists are also to be found throughout the year at events such as the Royal Highland Show, the Dundee Flower and Food Festival and one-off events such as this summer’s Berry Festival at the world-famous Royal Botanic Gardens Edinburgh.

Potatoes in Practice (PiP) is another annual outreach event held in the middle of August and usually attracts farmers, agronomists and suppliers from all over the UK and from overseas. This year more than 600 made their way to SCRI’s Balruddery Farm in Angus. Recently the Scottish Environment Minister, Roseanna Cunningham, speaking about PiP, said: “Scotland is justifiably renowned for its high quality potato production. This is largely due to the skills of our potato growers combined with the Scottish Government's support, through funding of research and development and the direct contribution of Government scientists, policy-makers and inspectors. Participation in events such as this helps to ensure that Scotland will retain and expand upon its leading position. Potatoes in Practice is a great example of Government and industry working in partnership to create a real Scottish success story".

The worldwide Potato Genome Sequencing Consortium (PGSC), which includes SCRI, is aiming to map the entire potato DNA sequence by the end of the year 2010. The work being done at SCRI will enable us to identify and understand the important disease resistances and beneficial traits in potatoes – that we need for use in our conventional breeding programmes and will allow us to manage these more efficiently to produce improved, new potato varieties in a shorter time scale. Those new products will end up on the supermarket shelves.

Contact: Phil Taylor

Outsourced activities – from Josef Gloessl, in EPSO NEWS 14

Austrian Outsourced Outreach Activities

Research into the life sciences has a strong impact on our world and only an informed public ensures science remains rooted in our society. dialog<>gentechnik promotes public engagement with regard to the life sciences in Austria. We encourage dialogue between those who carry out research and those who stand to profit from its results but also maintain it through their taxes. While we focus on generating understanding and trust, we also aim to stimulate curiosity and generate a fascination for research – in children, young people and adults.

The above image shows, DiNA on the Road' – a theatre performance for 8–14 year olds where farmer Hans and his chicken DiNA explain DNA, genes and gene technology.

Vienna Open Lab – is a 'hands on' laboratory offering access for everyone to practical experiments and young researchers in the life sciences (with up to 5.000 visitors annually). We provide public access to scientifically sound information in an understandable fashion through website, teaching material and information packages fostering communication between scientists and the public – we provide opportunities for all stakeholders through public events, discussions, presentations and experiments.

dialog<>gentechnik is an association of seven Austrian scientific societies with more than 150 scientists, who are registered experts supporting our activities. These societies and individual experts accept their responsibilities as scientists to maintain an active dialogue with the public. In addition an executive board with four renowned scientists signed are responsible for the society's activities. Furthermore, as a major effort in 2009, dialog<>gentechnik has coordinated the Austrian contribution to the European Researcher's Night. In collaboration with the renowned research institutes of the Vienna Biocenter an innovative programme exploring the similarities between science and art was successfully presented drawing the public as well as local scientists.

In 2008 Austrian science minister Johannes Hahn visited the Vienna Open Lab during the "Long Night of Research" in 2008. This year it was the turn of Margit Fischer, wife of the Austrian President, to visit the Vienna Open Lab "Film studios" at the European Researcher's Night 2009.

While we are building on the tried and tested, we are continuously developing new projects of international calibre to improve science teaching at schools, raise interest for science issues in people of all backgrounds and promote science as an interesting career option. Our programmes for the Vienna Open Lab offer adequate hands on experience for children at the age of 4 up to adults of all ages and are continuously expanded.

In addition we participate in several European and national research projects about public engagement, science impact assessment and science communication. Our activities are funded through public sources from the Austrian ministries for education (BMUKK), science (BMWF), and economy (BMWFJ), the city of Vienna and the EC's framework programmes.

Contact: Josef Gloessl