

ECTN – Links with Schools: Examples of good practice, Part II

With the ECTN-Newsletter 1/2005 the Links with Schools-Group within the ECTN started with descriptions of examples of how to cooperate between HE institutions and schools. In the present issue the group will give an overview about activities for schools provided by the associations of chemical industry in European different countries. The compilation had been submitted by Dominique Maréchal, Counsellor Communications, European Chemical Industry Council (Cefic)

Austria

Pädagogenpreis: Prize for excellence in teaching and stimulating students' interest in science.

Projektwettbewerbe für Hauptschulen und Polytechnische Schulen: Competition in which high schools and polytechnic schools make projects on chemistry in daily life themes.

Chemie-Sommerschule für Lehrer: Advanced vocational training for secondary school teachers. The FCIO (the Austrian chemical industry federation) provides research equipment.

Contact

Dr. Johann Pummer
Fachverband der chemischen Industrie Österreichs – FCIO
Wiedner Hauptstrasse 63 - A - 1045 Wien
Tel: +43(0)5 90 900-3372
Email: pummer@fcio.wko.at
www.fcio.at

Belgium

Special publications: Publications describing job possibilities in the sector aimed at youngsters and schools.

Special jobsite: Website describing 40 typical jobs in the chemical industry - www.metierschimie.be (in French) / www.jobschimie.be (in Dutch).

Other websites: Mendeljev's table (www.periodictableonline.org), Biotechnology (www.belgobiotech.be), Chlorine (www.belgochlor.be), etc.

Didactic sets: Didactic, scientifically correct and interesting sets. Examples: Chemistry and biotechnology, Chemistry and plastics, Chemistry and risks, Chemistry and chlorine, Chemistry and energy.

High school initiatives: Fedichem (the Belgian chemical industry federation) participates in Open Door Days and didactic projects of universities and high schools.

Contact

Dirk Clotman
FEDICHEM - Fédération des Industries Chimiques de Belgique / Federatie van de Chemische Industrie van België
Square Marie-Louise 49 - B - 1000 Bruxelles
Tel: + 32 2 2389751
Email: dclotman@fedichem.be
www.fedichem.be

Finland

Science clubs: During spring and autumn 2003 a pilot project of science clubs was initiated in ten comprehensive schools in the capital area. Over 100 children (9-12 years old) participated in the clubs, the themes and experimental work of which belonged to the areas of chemistry, physics, biology and technology. Each of the clubs was led in pairs by a class teacher and a chemistry teacher student. The leaders were supported by a steering group that provided material, training and personal mentoring.

The initiative was carried out in co-operation with other industrial federations, the Chemistry Teacher Education Unit at the University of Helsinki, the National Board of Education and the Ministry of Education.

The pilot initiative was a success and in spring 2004 the national Centre for School Clubs decided to take science clubs as one of their priorities. According to the model developed in the pilot initiative science clubs are now founded all over Finland. The financial and the organizational responsibility has shifted from the Chemical Industry Federation to the national Centre for School Clubs. The Federation is part of the steering group, and thus still follows up the initiative.

Chemistry Today – seminars: The aims of the initiative are to sharpen chemistry teachers' awareness of chemical industry and current research and to encourage them to adopt innovative teaching methods.

Two types of seminars have been organized. During two-day events teachers listen to presentations by top experts from industry and research institutes, visit local chemical industry companies and do hands-on work in workshops. During the one-day events the idea is to make the teachers familiar with the latest research and teaching activities of the local university in the area of chemistry.

Up to date 12 two-day events and two one-day science events have been organized in different towns all over Finland. Currently two seminars are held yearly. Chemistry Today –seminars, which are free of charge, have been very popular and the number of participants has been limited to 100 first registered.

Chemistry Today is a joint initiative of the Chemical Industry Federation (in charge), the Ministry of Education, the National Board of Education and the Finnish Association of Teachers of Mathematics, Physics, Chemistry and Informatics (MAOL ry). Chemistry Today was implemented in 1998 under the umbrella of the national programme LUMA, which was carried out through the years 1996-2000 with the target of improving skills in science and mathematics in the national level.

Komppa-seminars: The aim is to offer the pupils who have done well in chemistry in the senior secondary school an opportunity to get further information of the field of chemistry and to encourage them to choose chemistry as their future carrier. In addition the idea is also to acknowledge the chemistry teachers of these pupils.

30 top participants in the annual national Chemistry Competition for senior secondary school pupils and their chemistry teachers are invited to Komppa-seminar, which is held once a year (free of charge).

Komppa-seminar is a two-day event the program of which presents the research activities and applications of chemistry in industry and universities (site and laboratory visits, lectures, laboratory experiments).

Komppa-seminars are organized in co-operation with the Finnish Chemical Society.

Opportunities in Chemistry events: An admission-free, one-day seminar aimed at everyone interested in career opportunities in the fields of chemistry and biochemistry. The primary target group are the students already in the field. The seminar consists of lectures by people working in the chemical industry and related areas, for instance labour administration. A competition for students is usually received with loud applause. The events usually gather 300-400 people during the day.

Opportunities in Chemistry events are organized in co-operation with Suomen Messut (Finnish Fair) and are held in the Helsinki Fair Centre.

InnoChemistry: This novel initiative was launched in autumn 2002 with five co-operation projects between education units and companies. InnoChemistry projects aim at learning through practical product development and innovation. The pupils are encouraged to discover their own personal strengths and to pay attention to that employees of different kinds of skills and knowledge are needed in chemical industry. The role of innovativeness in industry, science and learning is highlighted.

InnoChemistry is carried out in close co-operation with educationalists, and is suitable for learners of a variety of ages. E.g. the students from the Department of the Applied Education at the University of Joensuu planned and supervised a project for 11-12 years old pupils with a local company Perlos Oyj (plastics industries) whereas in the in the project which was carried out in co-operation with Orion Oyj, a pharma industry company in the capital

area, the pupils were from the senior secondary school of Olari. The materials and models produced by the pilot projects are available at the Kemianet web service.

Contact

Merja Vuori
KT RY - Kemianteollisuus ry
Eteläranta 10 - P.O.B 4 - SF - 00131 Helsinki
Tel: +358 9 172 841
Email: merja.vuori@chemind.fi
www.chemind.fi

France

“Présentations chimie dans les lycéens et collèges” (conferences in secondary schools): Lectures in class rooms with a team (senior speaker + junior speaker (doctorants)) on topics related to the chemistry on daily life, the jobs in the chemical industry and the educational ways.

“Chimie la classe” (chemistry the schoolclass): An educational kit and leaflet for primary school teachers, entitled "Chemistry on our daily life" - distribution: 56 000 copies.

Contact

Catherine Beudon
UIC - Union des Industries Chimiques
14 rue de la République - Le Diamant A - F - 92909 Paris La Défense Cédex
Tel: + 33 1 46531129
Email: cbeudon@uic.fr
www.uic.fr

Germany

School promotion programme: A special initiative to strengthen the science lessons in schools.

The promotion programme is financed by the Fonds der Chemischen Industrie (German Chemical Industry Fund). Two of its main constituents are promotion of chemistry teaching (schools get money for more experiments in the chemistry teaching) and the mentoring-projects. Mentoring-projects mean financial support of partnerships between schools and institutions, such as chemistry departments of universities, for their establishment of e. g. permanent labs for pupils, science camps and other co-operations or activities intended to give children/pupils a realistic picture of the various job outlines in chemistry and the requirements necessary for these jobs.

Information series: Transparency series dealing with special topics of interest out of sectors, such as chemistry, environment, biotechnology, etc. The folios can be ordered free of charge by teachers/schools. (The series are part of the promotion programme "Schulpartnerschaft Chemie", too.)

Brochure “Schulpartnerschaft Chemie” (School Partnership Chemistry): This brochure contains best practice examples from the school promotion programme "Schulpartnerschaft Chemie".

Experimental kit “Tini und Toni”: A kit created for children of classes 2 - 6 in primary schools. Simple chemical experiments are presented in a booklet for children. The experiments can be carried out by the children themselves. 50,000 kits have been distributed by VCI (the German chemical industry federation) till end of 2003. In the year 2004 the "Tini und Toni" kit has been placed in the hands of a commercial publishing house. Schools can get financial support from the "Schulpartnerschaft Chemie" programme to buy the kit for their pupils.

Experimental kit “Kuno”: This kit has been developed for children of classes 2 - 4 in primary schools. Properties and applications of plastics are presented in a non-fiction book for children. Experiments can be

carried out by children by themselves. The kit is a project of the VCI sector association "Verband Kunststoff-erzeugende Industrie e. V." (from 1.1.2005: PlasticsEurope Deutschland").

Genetic engineering kit "Blue Genes": A kit which enables high school teachers to perform basic experiments of gene analysis and cloning at school. With the equipment and the reagents provided in the kit the class can perform a restriction analysis, cloning, and expression experiments of a bacterial gene. In the year 2000 the "Blue Genes" kit has been placed in the hands of a VCI member company. Schools can get financial support from the "Schulpartnerschaft Chemie" programme to buy the kit for their pupils.

Brochure "Chemie. Element unseres Lebens": A brochure based on the "Chemie. Element unseres Lebens" campaign (www.element-unseres-lebens.de). The brochure was actually not conceived for schools but for the public. Nevertheless nearly 75,000 copies have been ordered by teachers.

Weekend seminars and congresses for chemistry teachers: Organized by the VCI and its regional associations.

Website "Chemie im Fokus" (www.chemie-im-fokus.de): A website for career opportunities and information about study of chemistry. This site is a joint activity between VCI and the German association of chemists.

Newsletter: A newsletter for chemistry teachers is published three times a year. The newsletter contains information from the chemical industry and other sources.

Video "Planet X-Chem / Mission Future": A video based on the tv series "Molecular Creation" which has been broadcasted the year of chemistry 2003. Part 1 of the video demonstrates that chemical reactions take place everywhere - even in our bodies. In part 2 chemists, engineers and inventors are introduced. 15,000 copies of the video has been distributed to the secondary schools in Germany.

Brochure "Kuchen, Flirt und Nanowelten" (Cake, flirtation and nano worlds): A brochure showing the important role of chemistry in our everyday life. Examples: health, textiles, energy, communication.

Contact

Sabine Bertram

VCI - Verband der Chemischen Industrie e.V.

Karlstrasse, 21 - D - 60329 Frankfurt 11 - Postfach 11 19 43 - D - 60054 Frankfurt

Tel: +49 69 / 2556 - 1464

Email: bertram@vci.de

www.chemische-industrie.de

Italy

Orientagiovani: Every year Federchimica (the Italian chemical industry federation) organizes Orientagiovani, the event realized to improve scientific knowledge between the students of primary and secondary schools.

Orientagiovani is articulated by two manifestations: one dedicated to the students of primary schools in order to introduce them to studies in chemical subjects and to explain them the utility of chemistry; and another manifestation involved the students of secondary schools in order to guide them towards the future university choices.

Both the manifestations are organized in collaboration with the Chemical Group of Assolobarda.

"A journey around the magical world of chemistry" (so was called the first manifestation) took place in Milan on 8th November 2004, and have been involved more than 500 students of primary schools of Milan and Province. It was articulated on practical and interactive experimentations carried out by some students of two Institutes of advanced instruction of Milan, who tried to explain the importance of chemistry in our daily life.

The other edition of Orientagiovani was called "My future and the chemistry" and it took place on 18th November 2004 inside the Futurshow, involving university research workers and teachers in chemistry of the most important university of Milan. They explained how important is chemistry in our daily life, how chemistry is all around us (for example in motorcycles, in mobiles or in clothes) and which is its environmental impact, using also short films and demonstrations.

As special guest, the President of the Microsoft Bill Gates was present and he opened the works for beyond 1200 participants (800 of whom were students of the secondary schools) with a synthetic survey of his company, followed from a short debate that has involved exponents of the political and industrial world. Important subjects have been moreover discussed like the faculty choice and the possible occupational outlets for those who are choosing studies in chemical subjects.

Contact

Noemi Sutera
FEDERCHIMICA - Federazione Nazionale dell'Industria Chimica
Via Giovanni Da Procida, 11 - I - 20149 Milano
Tel: + 39 02 34565355
Email: n.sutera@federchimica.it
www.federchimica.it

The Netherlands

“Feel the chemistry” flyers: Overview of all chemical-related courses and studies.

“Feel the chemistry” website (www.feelthechemistry.nl): This website provides examples of people working in the chemical industry and other chemical professions.

Periodic Table of the Elements – printed version: The natural appearance and the use of the elements are illustrated on a colorful poster and on a small version for students.

C3 (Chemistry Communication Centre) Foundation (<http://www.c3.nl>): The main objective of the C3 Foundation is to inform the public about all aspects of chemistry. It is co founded by the teachers association, the association of chemists and the VNCI (the Dutch chemical industry federation). C3 also prepares teaching material for different age groups.

Graduation price: Gift given to graduates of secondary schools with high score for chemistry.

Working in the chemical industry brochure: Aimed at students and secondary school pupils.

Meet the boss: A meeting of young people with a boss of a chemical company. Classes from 4 different schools discuss with the boss, and with each other, chemistry in the broadest sense and about the chemical industry in particular. The meeting is set in a debating contest.

Mate prize: Students of secondary schools (5th year) are stimulated to participate with their end term paper, on condition that a chemical company has participated in the subject of this paper.

Teachers conference “Woudschoten”: Sponsored by VNCI and aimed at secondary school teachers.

Contact

Dr Saskia F Brouwer-Keij
VNCI - Vereniging van de Nederlandse Chemische Industrie
Vlietweg 16 - Postbus 443 - NL - 2260 AK Leidschendam
Tel: +31 70 3378726
Email: brouwer-keij@vncl.nl
www.vncl.nl

Spain

Teaching teachers: An annual seminar for 1000 teachers.

Didactia: A multimedia CD for teachers of primary and secondary schools.

Chemistry&Future: Electronic news bulletin on chemistry aimed at teachers of primary and secondary schools.

Todo es Química (Everything is Chemistry) website: *Todo es Química* is a traveling exhibition of 300 m² that has been shown in the most important Science and Technology Museums of Spain until 2005 (started in 2001). It is divided in different zones (Chemistry and Health, Chemistry and Food, Chemistry and Transport...) and visitors can see and touch to understand that everything has "molecules inside". The exhibition has been sponsored by 20 chemical companies and is now available on the internet at <http://www.fundacionquimica.org/portada.htm>.

Contact

Juan Labat
FEIQUE - Federación Empresarial de la Industria Química Española
Hermosilla 31 - 1^o dcha - E - 28001 Madrid
Tel: + 34 91 4317964
Email: jal@feique.org
www.feique.org

Switzerland

Swiss youth research competition: SGCI (the Swiss chemical industry federation) award for best natural science work. Target audience: high school students.

Contact

Paul Vesel
SGCI Chemie Pharma Schweiz
Nordstrasse 15 - Postfach - CH - 8035 Zürich
Tel: +41 1 368 17 34
Email: paul.vesel@sgci.ch
www.sgci.ch

Chemistry Olympiads

Countries like Austria, Belgium, France, Germany, The Netherlands and Spain are also participating in the international Chemistry Olympiads.