



# European Association of Chemical and Molecular Sciences

## Annual National Reports on Chemical Education The Netherlands 2008

### 1. Abstract.

*In November 2008 a new board member for education of the Royal Dutch Chemical Society was appointed. Jan Apotheker replaced Alex van Herk. An experiment in 22 secondary schools was started with a new curriculum. This new curriculum is to be implemented in 2012.*

*In tertiary education all universities have adopted the bachelor master system. The chemical society participates in a program called human capital chemistry. Its goal is to have the Netherlands gain a prime position in chemistry knowledge.*

### 2. National educational policy

**Secondary Education.** *2010 is a crucial year for the development of a new curriculum for secondary schools in the Netherlands. In December 2010 the national steering committee for the development of a new curriculum will report to the minister of education. To prepare for the report an experiment in 22 schools was started. These schools work with the new curriculum. The aim of the experiment is to demonstrate that the new curriculum and the new material written yield a workable school curriculum. In May 2009 the first group of almost 200 students participated in the national central examination.*

**Tertiary Education.** *All universities in the Netherlands have adopted the Bachelor Master system. Three universities have had their bachelor recognized as a European Bachelor. In the universities teachers now have to obtain a qualification as a teacher in tertiary education. The universities have recognized and unified the qualification requirements. The number of students enrolling in chemistry education is slowly rising. The universities of Leiden and Delft have decided to offer one bachelor for both universities. It is still unclear how degrees at vocational universities will be cited. Both bachelor degrees and associated degrees are under discussion.*

### 2. Events in chemical education.

*As in other years there are two main conferences for chemistry education in the Netherlands. The Woudschoten conference, attended by about 300 teachers and the one-day meeting in Nijmegen, also attended by about 300 teachers in April. The third national event, organized by NVON, was held in Eindhoven, and had about 100 attendees.*

*Universities have programs for students in their direct surroundings. These include master classes, special labs etc. The national Chemistry Olympiad drew about 1600 students in the first round. The best 4 participated in the International Chemistry Olympiad.*

*Programs for the general public included a chemistry day, but also lectures by eminent scientists.*

### 3. Activities of the National Chemistry Society,

*In November 2008 Jan Apotheker followed Alex van Herk as board member for education. Education has been declared one of the focal points for the Royal Dutch Chemical Society, next to labour and society. As a result it has become more involved in the development of the new chemistry curriculum in secondary education.*

*The KNCV has supported the actions of IUPAC to declare 2011 as the international year of chemistry. A new prize has been instituted, the golden teacher award. This award gives teachers a travel grant to an international educational conference. The first prize, € 2500, is meant for the attendance of the 21<sup>st</sup> ICCE in Taiwan in August 2010.*

*During its spring meeting the KNCV organized a parallel section for a new school subject, science and technology. Young KNCV organized a poster competition. Finally a career expo was organized for students.*

*Human Capital Chemistry is a program, which aims to increase the number of people graduating in chemistry in all levels, increase attention for chemistry education, professionalization of teachers,*

*improve the connection between the labour market and education, stimulate enterprise in chemistry, care for attractive jobs in chemistry.*

#### **4. Publications**

*The website [www.nieuwescheikunde.nl](http://www.nieuwescheikunde.nl) has been opened. It contains most of the new material used in the development of the new chemistry curriculum. Another website [www.scheikundeinbedrijf.nl](http://www.scheikundeinbedrijf.nl) contains material developed in cooperation with the VNCI, the organization of chemical industries. [www.feelthechemistry.nl](http://www.feelthechemistry.nl) and [www.c3.nl](http://www.c3.nl) are websites used to promote chemistry.*

#### **5. Chemical Industry**

*Together with the VNCI a number of units for the new chemistry curriculum have been developed. Subjects include biotechnology, fertilizer, and lactic acid.*

#### **6. International or European initiatives,**

*The board member for education has become a member of the committee for chemistry education of IUPAC. Individual universities take part in European activities, for example the university of Groningen takes part in carboschools. ([www.carboschools.com](http://www.carboschools.com))*

#### **7. Other events or activities.**

#### **8 brief resume or CV of the delegate,**

*Jan Apotheker is a lecturer in chemistry education at the University of Groningen since 1998. After taking a degree in biochemistry in 1977 he taught chemistry for 25 years in a secondary school in Groningen. He is board member for education of the Royal Dutch Chemical Society. He is also a member of the steering committee for the development of the new chemistry curriculum. He is involved in the teacher-training department of the University of Groningen.*

