

The Division of Analytical Chemistry  
of the  
Federation of European Chemical Societies  
and Professional Institutions (FECS)



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In last year's issue of this column the appointment of a DAC Task Force was reported whose aim was to revise the *Eurocurriculum for Analytical Chemistry*, published in 1991. An update was considered along with the preparations for a revised second edition of the DAC approved textbook 'Analytical Chemistry' (Wiley-VCH, 1998). The revisions got strong tailwind from the discussion of a Eurobachelor degree all the more as in the initial proposals analytical chemistry was felt to be under-represented. The DAC Task Force installed in September 2002 has produced a convincing model syllabus. The DAC Annual Meeting on 21 September 2003 in Thessaloniki, Greece, approved the new revision as *Eurocurriculum II for Analytical Chemistry*.

With the so-called *Bologna declaration* of 1999 the Ministers of Education of 29 European countries agreed to achieve coherence in higher education. Proposals how to structure the education in chemistry were designed by the Working Groups of ECTN, *i.e.*, the European Chemistry Thematic Network ([www.cpe.fr/ectn](http://www.cpe.fr/ectn)). This network was founded in September 1996 and is funded by the European Commission as part of the Socrates/Erasmus Programme. Currently ECTN comprises of about 120 chemistry departments of universities from all the member states of the European Union as well as of most of the states awaiting accession plus some national chemical societies such as the British RSC and the German GDCh. One of the projects is 'Tuning Educational Structures in Europe' which aims to harmonize chemistry curricula and define the framework of the *Chemistry Eurobachelor*.

For various reasons analytical chemistry has not in recent times always been accepted as a core field of chemistry. Such views were reflected also in the early schemes discussed in the Tuning project which caused an extensive as well as intensive discourse on what was a balanced representation of analytical chemistry. The DAC Task Force joined the ECTN discussion and on behalf of DAC objected to the non-adequate position of analytical science among the core fields in the Eurobachelor schedule. The frank exchange of views resulted in an approach based on seven core subjects, namely general/inorganic, analytical, physical, organic, and biological chemistry along with mathematics and physics. This revised structure was passed by the ECTN Plenary Meeting in Prague in April 2003 and was unanimously approved by the Delegates of the European chemical societies present at the DAC Annual Meeting 2003.

What acceptance as a key core area in the Eurobachelor means to education in analytical chemistry has been outlined by Reiner Salzer, Head of the DAC Task Force, in the paper 'Eurocurriculum II for Analytical Chemistry' [*Anal. Bioanal. Chem.* **378** (2004) 28–32; a copy is available from the DAC website [www.dac-feecs.org](http://www.dac-feecs.org) as are further diagrams showing the analytical topics embedded in the framework of the Eurobachelor education]. The degree requires a total of 180 credits, 15 of these should be related to the specific analytical topics. These 15 credits of basic education translate into 75 hours lectures and 150 hours laboratory exercises. A distribution of material has been proposed taking into account the four analytical pillars of spectroscopy, chromatography, chemical sensors and chemometrics, the latter includes quality assurance from sampling and reference materials to accreditation.

It is recommended to distribute the analytical tuition over two semesters, in order to balance the workload of the teaching staff. Within the course of the Eurobachelor education, the analytical topics are

proposed to be in the third and fourth semester since their comprehension requires knowledge which is imparted in the earlier semesters. As mentioned above, the Eurobachelor candidate must accumulate 180 credits. Most of these must come from the core of compulsory and semi-optional basic topics, the rest comes from optional, specializing or elective units what provides a good choice to meet personal preferences and career intentions.

The proposed Eurocurriculum II for Analytical Chemistry has appeared in time to help the current activities of many universities to improve their syllabus with regard to transparency and transferability. Comprehensive and concise, never the less its structure grants sufficient flexibility to be adapted to various needs and traditions, in particular it retains and protects the high educational standards of the leading departments. Problem solving and quality assurance are dominating didactic principles. Among the European endeavours to harmonize university education, chemistry has achieved a remarkable position with the concept of a Chemistry Eurobachelor, and within this concept the analytical share of the syllabus is the first among those of the core disciplines which is available, in detail and is ready to use.

The intense and constructive cooperation of DAC and ECTN led to the adequate representation of analytical chemistry in relation to the other chemical disciplines. This is by no means self-evident and sufficiently fulfilled in all European states, as shown by the appeal of the German Chemical Society GDCh to the authorities in German universities 'to further strengthen analytical chemistry when interpreting or revising existing curricula of chemical education or setting up new ones'. In the GDCh Memorandum – Analytical Science (a link to the English version is available at 'Publications' at the DAC website). This 'unequivocal plea' was derived from the facts that analytical chemistry increasingly represents a dominating force in industry's added value chain and that society demands decisions based on analytically validated data and assessments, in for example the spheres of politics, medicine, law and economics. As a consequence of globalization and of advancing European unification well educated analytical chemists are needed.

This positive assessment of analytical chemistry by our colleagues from other sectors of chemistry was well received by the DAC Delegates at the Annual Meeting. At this meeting a mission statement was added to the revised statutes of DAC, stressing the aim to build up a network of colleagues, societies, and institutions related to analytical science, and to secure high quality standards in both, education and research. Furthermore, Rules for the *Robert Kellner Lecture* were accepted. This lecture was established in memory of the former DAC chairman and will be given regularly as a prominent plenary event at EUROANALYSIS conferences. It aims to honour substantial contributions to the advancement of analytical chemistry. The inaugural Robert Kellner Lecture will be delivered during EUROANALYSIS XIII in Salamanca, Spain (5–10 September 2004). The Call for Nominations had kindly been published in numerous journals last year and a jury consisting of five renowned colleagues will evaluate the nominations submitted by individuals or societies.

Another highlight at EUROANALYSIS 2004 will be the session in which the Heinrich Emanuel Merck Award is handed over. Furthermore, the conference will be honoured by a FECS Lecture, as were the two preceding EUROANALYSIS conferences. On proposal of the Spanish Society of Analytical Chemistry SEQA, the FECS Executive Committee awarded this distinction to Andreas Manz of Imperial College London/UK. The attractive program of EUROANALYSIS will be presented in historical buildings which were recently restored and converted into the university's conference centre. It is located *intra muros* of the medieval city where all facilities necessary to the participants are in walking distances.

The FECS Executive Committee also approved the proposal put forward by the DAC, to award Wilhelm Fresenius with the "Award of Service" to honour his prominent commitment in the DAC activities during the 30 years of its existence and his achievements towards European cooperation in chemistry. A few months before, the FECS President and the DAC Chairman congratulated the editor of the analytical journal named after his ancestor, entrepreneur, and tutor, at the occasion of this 90<sup>th</sup> birthday celebration

To close with, the DAC extends sincere thanks to all publishers who let this column appear regularly in their journals, occasionally also a call or an announcement. This gives DAC the opportunity to address the analytical community and to report on plans, events, developments and achievements. Similarly the DAC is most grateful to the colleagues who include information on and from the DAC in the newsletter of a national society. Considering DAC as sort of child the FECS member societies, one could

dismiss such support as merely a family matter, however it is vital to DAC to be visible to all the individual members of the member societies. To mention here just two partners, DAC gratefully acknowledges the continued cooperation of the Analytical Division of the British RSC and welcomes with pleasure the consent of the Serbian Chemical Society to print this column regularly in their journal.

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