Anal Bioanal Chem (2011) 400:2273–2274
DOI 10.1007/s00216-011-4989-0

EDITORIAL

Analytical sciences in Austria

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Published online: 17 April 2011

Analytical chemistry has been an important independent scientific discipline in Austria for many years. This is clearly highlighted by the long existence of dedicated institutes/departments at Austrian universities (Graz, Linz, Innsbruck and Vienna) providing high-level education as well as engagement in various curricula and research. Furthermore, this is underlined by the existence of an independent Austrian scientific society dedicated to the promotion of analytical sciences, namely the Austrian Society of Analytical Chemistry (ASAC), which was founded in 1948. One of the society's major aims was to further activities in the area of microchemistry and microanalysis, in which significant progress had been achieved by Fritz Pregl. Pregl was awarded the Nobel Prize in 1923 for his work in microanalysis, work that was carried out at the University of Graz. In the decades following the foundation of ASAC, its focus has shifted from microchemistry to analytical chemistry in a very broad sense, which reflects the huge changes that have taken place in analytical sciences over the years. The title of the journal *Microchimica Acta* still reminds us of the origins of modern analytical chemistry in Austria.

Published in the special issue *Analytical Sciences in Austria* with Guest Editors G. Allmaier, W. Buchberger and K. Francesconi.

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Scientific research in analytical sciences is a privilege of universities, but attitudes towards analytical chemistry as an independent scientific discipline differ from country to country. There is (unfortunately) not full agreement that every chemistry department should have a full professor in analytical chemistry. Universities in Austria have always been aware of the importance of analytical sciences and that experts in this area are vital for progress in chemistry and related fields; therefore, analytical chemistry is well established at Austrian universities. The development of analytical chemistry in Austria and also in the European context has been substantially supported by ASAC. ASAC played a leading role in the Working Party for Analytical Chemistry of the Federation of European Chemical Societies in the 1970s and 1980s (now the Division of Analytical Chemistry of EuCheMS) and it has always been a driving force to make analytical chemistry sufficiently visible for the scientific community.

Achievements in Austrian analytical chemistry and of ASAC are internationally recognized. Therefore, it is not surprising that ASAC is continually involved in the organization of international conferences, including meetings dedicated to specific topics in the analytical sciences, as well as broad-ranging conferences such as Euroanalysis (held in Austria in 1990 and in 2009).

Looking for hot spots of analytical chemistry in Austria, one should consider the activities of not only universities, but also a range of government laboratories involved in food analysis, environmental analysis, health and related areas. These labs do perform professional routine analytical work, but they are also involved in the validation of new analytical methods in cooperation with international partners. Last but not least, Austria is an attractive location for international chemical and instrument companies that run production plants as well as research facilities, where highly qualified analytical chemists are employed.

The idea to prepare a special issue on the progress of analytical sciences in Austria was immediately welcomed

by the Austrian analytical community. The number of manuscripts submitted met the most optimistic expectations, which once again demonstrates that Austria, despite its relatively small size, is an excellent environment for high-quality research in analytical chemistry.

This issue presents the various competencies of Austrian research institutions—from academia to industry. It covers an amazingly broad range of topics and also demonstrates the interdisciplinary character of this discipline. The guest editors hope that this issue will stimulate new contacts between Austrian analytical chemists and those from abroad, and will help to strengthen existing collaborations. Special thanks go to Springer and the editorial team of *Analytical and Bioanalytical Chemistry* for providing a perfect platform for this project.

Günter Allmaier is currently Full Professor of Analytical Chemistry and Head of the Research Division of Instrumental Analytical Chemistry as well as Group Leader of Bio- and Polymer Analysis at the Institute of Chemical Technologies and Analytics of Vienna University of Technology (TU Wien) in Vienna. His scientific interests lie in "omics" technologies and their application to bioprocess technology, human diseases (e.g. biomarker discovery related to kidney diseases) and microbiology, characterization of biopolymers (e.g. coagulation proteins), technical polymers and lipids by mass spectrometry (MS), intact cell MS for microorganism identification, gas-phase electrophoretic molecular mass analyses of functional biocomplexes, viruses and vaccines, nanobioparticle detection/characterization, and instrumentation such as capillary electrophoresis on a chip and MS ion sources.

Wolfgang Buchberger is Full Professor of Analytical Chemistry and Head of the Institute of Analytical Chemistry at Johannes Kepler University, Linz. His main research interests are in the fields of organic analytical sciences and organic trace analysis with applications in the areas of environmental analytical chemistry as well as method development for industrial chemistry, including the characterization of polymeric materials. His current projects are mainly based on coupling of analytical high-performance separation techniques such as chromatography and capillary electrophoresis with advanced and novel mass-spectrometric detection tools. Currently, he is a member of the editorial boards of several analytical journals, and he represents Austria in the Division of Analytical Chemistry within EuCheMS.

Kevin Francesconi is a graduate from Curtin University of Technology (B.Appl.Sci.) and from the University of Western Australia (Ph.D., organic chemistry). He worked for 20 years at the Western Australian Marine Research Laboratories, first as an analytical chemist and then as a research scientist in environmental chemistry. In 1996, he moved to the Ecotoxicology Group at the University of Southern Denmark before moving to Graz University in 2002, where he is presently Professor of Analytical Chemistry. His research has focused on the development and application of chemical and analytical methods for studying fundamental processes of biotransformation of metals in the environment and in organisms, including humans.