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Foreword

The *15th Montreux Symposium on LC–MS, SFC–MS, CE–MS and MS–MS* was held in Montreux on November 11-13 1998. This symposium series continues to grow rapidly and again the number of participants and contributions superseded to previous meetings. The maturity of the LC–MS field was clearly reflected by the great variety of contributions as well as the broad range of novel very practical solutions to drive the applications even further. The instrumental sales predictions for LC–MS of over a billion dollars in the next decade provide another basis for a further rapid growth scenario.

The strong impact of the quantitative bioanalysis area on the development of LC–MS, mainly triple quadruple instrumentation, continues to be an important part of the contributions with a strong focus on the improvement of the productivity of the systems by using fully automated setups including sample pretreatment on 96- and 384-well plate format and dedicated data handling. A further extension to the improvement of the productivity is towards fast chromatographic separations a.o. turbulent flow and new multiple component approaches in drug evaluation. The high demand of developing an interface between new drug discovery strategies and drug development opened additional space for LC–MS to generate important data a.o. metabolic stability for ranking of possible leads.

LC–MS further strengthened its position as analytical key tool in pharmaceutical and biotechnology industry being used now extensively also in the drug discovery process especially in the fields of proteomics. A variety of presentations have elucidated on the new options in protein mapping and characterisation by different mass spectrometric approaches and the importance of new technologies will strongly grow in the near future. Ion trap technology and Q-TOF instrumentation generating improved sensitivity and mass accuracy are the instrumental drivers for this, while FTMS reveals its great potential but needs still further improvement to achieve wide acceptation and implementation in this part of the pharmaceutical process.

The contributions in the field of environmental chemistry were also remarkable, providing clear broadening of the acceptance and applications, taking full advantage of the multiresidual opportunities at low concentration levels.

Key in many areas is the software development and in recent years enormous input has been given to enlarge the capabilities of the LC–MS systems as well as making the instrumentation more accessible to newcomers in the field and allowing easy automation. Also novel software options allow more complex ''data dependent''-experiments and several contributions focused on new software tools to improve the detection of low signals in large datasets coming from protein related experiments or impurity profiling studies. Major further achievements can be expected is this area and will strongly stimulate the entrance of newcomers in the field.

Furthermore miniaturization plays a dominant trend in both the interfacing (nanospray) as well as in the separation techniques based on electromigration methods (capillary electrophoresis, isotachophoresis, capillary electrochromatography, free flow electrophoresis, etc.) or sampling methods (a.o. in-vivo microdialysis), pushing the chip based developments further into the opportunities for new unexplored areas.

A major area of mass spectrometry is still characterisation and various contributions underlined this

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power especially novel MS–MS experiments based on a.o. ion trap technology but also in combination with spectroscopic technologies as in LC–NMR–MS providing tools of unmatched power in terms of structural analysis.

The venue of Montreux together with the enthusiastic participants once more provided the ideal stimulating imbedding of this event, making it remarkable and memorable as milestone event in LC–MS.

Leiden, The Netherlands J. van der Greef