

SC2 - Short Course #2

Advanced CE-MS approaches for metabolomics

Presented by Professor Rawi Ramautar, Leiden University, the Netherlands

<https://www.universiteitleiden.nl/en/staffmembers/rawi-ramautar#tab-1>

In the field of metabolomics, capillary electrophoresis-mass spectrometry (CE-MS) has become a very useful analytical technique for the profiling of highly polar and charged metabolites in biological samples. In this course, a comprehensive overview of recent developments in CE-MS for metabolic profiling studies is provided. Topics that will be covered include CE separation modes, capillary coatings and recent interfacing designs for hyphenating CE to MS. In this context, special attention will be devoted to interfacing techniques allowing in-depth metabolic profiling studies by CE-MS. Throughout the discussion attention will be paid to practical aspects used for CE-MS-based metabolomics. The potential of this analytical technique for large-scale and quantitative clinical metabolomics studies is also addressed. Finally, the utility of CE-MS for metabolomics is demonstrated for selected clinical and biological problems, especially for volume-limited samples. Conclusions and perspectives on this unique analytical strategy are presented.