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Preface

On 6–7 March 2003, the *First International Symposium on Comprehensive Multidimensional Gas Chromatography* was held at Hotel Spaander in Volendam, the Netherlands. Since, normally, the fishing village of Volendam is a very quiet place in the early months of the year, the arrival of over 120 registered participants caused quite a stir—fortunately, also scientifically. With delegates from all over Europe, but also from the USA, Australia, South Africa, China and Japan, a scientific programme comprising 20 lectures and 34 posters, an instrument exhibition and several vendor seminars, the symposium demonstrated that comprehensive gas chromatography, or GC \times GC, has become an established, and exciting, technique in the field of gas chromatography.

Two special sessions merit mentioning (where we kindly forget a third, exuberant drinking-and-dancing session which, in the course of the night, became so loud that neighbouring villagers started to complain). One was a well-attended workshop which preceded the symposium and dealt with aspects such as the fundamentals, experimental techniques, optimisation and real-life application of GC \times GC. The second one was a discussion session dedicated to nomenclature and terminology in comprehensive multidimensional (gas) chromatography. There was—which is quite unusual in such cases—unanimous agreement on many issues. As a result, learned opinion on *comprehensiveness*, *orthogonality*, *modulation*, *wrap-around* and *separation space*, to name but a few of the terms discussed, was recently presented to a larger audience by P. Schoenmakers, Ph. Marriott and J. Beens in a paper in the June 2003 issue of LC.GC Europe, pages 235–239.

Since the early days of comprehensive gas chromatography, which was introduced by the late Professor John Phillips slightly over a decade ago, much

progress has been made. One notorious problem of the 1990s, the design of a robust and user-friendly modulator, has been adequately solved by the advent of cryogenic modulators, and novel designs are now announced every few months. In addition, an increasing number of second-dimension columns is becoming commercially available. And, even more importantly, fast and reliable but, unfortunately, non-selective, FID detection today has its companions, specifically micro-ECD detection—indispensable for the many ubiquitous classes of halogenated micro-contaminants—and time-of-flight mass spectrometry (ToF MS), a powerful tool for identification and confirmation purposes. Recent additions to the list are sulphur chemiluminescence and atomic emission detection, and it actually was a poster on the latter element-selective detector, by Ph.D. student Leo van Stee (Free University of Amsterdam), which was awarded the poster prize: it is one of his two-dimensional chromatograms which embellishes the cover page. Finally, one should notice that GC \times GC is rapidly being introduced into new application areas—next to petrochemical analysis, analyses of air, cigarette smoke, fish, food, environmental samples and essential oils increasingly attract attention. It is probably this last-named development which will ensure the recognition of GC \times GC as a powerful and versatile analytical technique.

A few weeks prior to the symposium, a review paper on GC \times GC that had been completed by some of us, gave a total score of just over one hundred papers having been published in the field of comprehensive gas chromatography. It is a clear indication of the rapid growth of the technique that more than twenty papers are included in this Special Issue—a much larger haul than we expected to make when we started

our editorial activities. Another special aspect of the issue is that it is, to our best knowledge, the most 'colourful' one ever published in *J. Chromatogr. A*. We thank Elsevier for allowing us, on behalf of authors and readers, to use colour on such a lavish scale—and, at no extra cost!

Udo A.Th. Brinkman
Burgh-Haamstede, The Netherlands

René J.J. Vreuls
Amsterdam, The Netherlands