Advances in food analysis

There are multiple reasons that can explain why food analysis is a topic of enormous interest for a large number of private and public institutions all around the world. Ideally, both institutions should be sensitive to people's health and environmental problems, taking care of producing enough, healthy and safe food in environmentfriendly conditions, but we know we do not live in an ideal world. One of the first demands made by consumers to public institutions is that they must guarantee the safety and authenticity of each type of food brought/sold daily in their own country. Considering the Globalization and the great movement of food and related raw materials worldwide, this task requires more investment and more rigorous work in order to solve in a fast and better way the contamination events that are also becoming everyday more global (e.g., the recent episode on *Escherichia coli* in Europe). In this regard, manufacturers and chains of food distribution have to improve their control on quality and safety of raw materials, manufacturing processes and finished foods in order to offer safe, high quality, healthy food products and at a reasonable and competitive price. In addition, a large part of the today's research in Food Science includes new aspects related to Nutrition and Health. As a result, the positive or negative effects of many types of compounds present in foods undertaken daily are now carefully studied. Recently, the introduction in this area of research of advanced "omics" approaches such as Proteomics, Metabolomics, and Foodomics, have made possible that food scientists can face problems unthinkable few years ago. These demands have increased the need for more sophisticated instrumentation and more appropriate methods able to offer better qualitative and quantitative results while increasing the sensitivity, precision, specificity and/or speed of analysis. In this scenario, scientists involved in producing new analytical instrumentation and developing new analytical methods play a crucial role in order to give a correct answer to these new needs and expectations generated. Journal of Chromatography A has always been sensitive to problems related to the development of new analytical methodologies, especially those related to separation techniques and their multiple applications. Among them, a special issue dedicated to Advances in Food Analysis is now presented here. This special issue is the natural continuation of the previous one published by JCA in 2009 [(see Journal of Chromatography A 1216 (2009) 7109, A. Cifuentes (Guest Editor)]. In this issue, 36 papers (including five reviews) are presented by several of the most recognized researchers in the field of food analysis. They include topics related to sample preparation, modern "omics" approaches and hyphenated procedures such as GC-MS, LC-MS, and UPLC-MS. The most recent applications to assess food safety, quality and authenticity, technological processes control, determination of nutritional values and detection of target molecules with possible beneficial or toxic effects on human health are also presented. As the Guest Editors of this special issue devoted to "Advances in Food Analysis", we would like to thank all authors who accepted our invitation submitting their valuable contributions.

Our thanks are also due to all colleagues that spent some of their time reviewing the manuscripts and giving useful advises to us and to authors for improving the quality of the papers. Finally we are grateful to Elsevier's team (especially Jan Kastelein and Patrica Massar) for the contribution given to the preparation of this special issue.

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