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Editorial

Editorial on "Estimation of uncertainty in analytical procedures based on chromatographic techniques" by P. Konieczka and J. Namieśnik

As inevitable as death and taxes are errors in analytical measurements. How we characterize and disclose those errors is important for establishing confidence in a chemical measurement. An aspect of metrology of increasing interest in this regard is the concept of an uncertainty budget. This is a tool applied to the full analytical procedure that is helpful in pinpointing the weak links in a method as well as facilitating the statistical testing of data gathered from different laboratories for either competing methods or as a component of an interlaboratory study. The lack of information for the uncertainty budget in contemporary scientific papers in analytical chemistry is lamentable, but this has probably less to do with a lack of interest and more to do with a lack of understanding of this tool. Academic courses rarely cover this topic in any depth, if at all, and the fear of the unknown has been sufficient to deter many professional scientists from adopting this concept in their own work unless pushed to do so by regulatory agencies. Outside the regulatory environment there is probably little real pressure to describe novel analytical methods with the same attention to detail and confidence as regulatory methods, particularly if this interferes in the publish or perish environment in academia, from which a large fraction of novel methods result, but only a few of these eventually progress to standard methods. In some cases the passion for creating or following fashion is ranked higher than demonstrating that the latest idea represents a real scientific advance based on rigorous statistical tests. The authors of the current Editors' Choice article have practiced what they preach for many years, and the following review should assist in orientating the interested reader towards the appropriate statistical tools to apply to their work; the case studies can be used to identify partial templates for building uncertainty budgets for current projects; and the bibliography used to identify suitable literature for further incursions into the topic.

Detroit, MI, USA Colin F. Poole

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