"POP measurements: Tracking Down the Part in the Quintillion"

Measurements of POPs in various matrices is routinely performed in many laboratories. The many stringent existing regulations and QA/QC guidelines imply the use of high end instruments. As it is especially the case for dioxin measurements in biological samples, these instruments are often pushed to their limits to ensure proper detection at sub-pg levels. For measurements of dioxins in blood, this is even further difficult as levels are decreasing to the low-fg (high-ag) range. At such levels regular procedures become unusable because of possible blank issues, lack of instrumental sensitivity, and the limited number of ions effectively detected at the MS stage. Miniaturized sample collection, extraction, and clean-up procedures have to be followed by signal enhancers for ultra-sensitive detection of targets. Some of the recently investigated approaches to try to overcome such issues will be reported and discussed to illustrate we are currently are locating ourselves in the chase of the Part hidden in the Quintillion.