

## Chemical and biological references at the Federal Institute of Metrology METAS

Hanspeter Andres

Deputy Director, Federal Institute of Metrology METAS  
hanspeter.andres@metas.ch

The Federal Institute of Metrology (METAS) serves as the federal centre of competence for all issues related to measurement, to measuring equipment and measuring procedures. It is the Swiss national metrology institute. As such, its mandate is to ensure the availability in Switzerland of measurement and testing facilities with the degree of accuracy needed to meet the requirements of the economy, research and administration. METAS stands at the cutting edge of measurement accuracy in Switzerland.

In chemistry and biology, the classical concepts of metrology (traceability and measurement uncertainty) are only partially established. Traceability of measurement values to the international system of units SI can make significant contributions to technical and scientific progress in various areas. At METAS we focus on the areas of environmental, health and life sciences that are relevant to the Swiss economy, administration and science. Results of four recent collaborative R&D projects advancing measurement science in chemistry and biology will be presented.

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- [2] K. Vasilatou et al.; Extending traceability in airborne particle size distribution measurements beyond 10 µm: Counting efficiency and unit-to-unit variability of four aerodynamic particle size spectrometers, *Aerosol Science and Technology*, 57:1, 24-34 (2023); DOI: 10.1080/02786826.2022.2139659.
- [3] S. Lobsiger et al.; Development of a novel certified reference material for the determination of polycyclic aromatic hydrocarbons (PAHs) in whey protein powder, *Anal Bioanal Chem* 415, 5819–5832 (2023). DOI: 10.1007/s00216-023-04863-9.
- [4] S. Flütsch et al.; Vibrio-Sequins - dPCR-traceable DNA standards for quantitative genomics of Vibrio spp. *BMC Genomics* 24, 375 (2023). DOI: 10.1186/s12864-023-09429-8