

ANALYTICAL CHEMISTRY

Elucidating effects of nutrition on human health with human breath analytics.



Research Areas

- Real-time Breath Analysis;
- Nutrimetabolomics and NutriExhalomics;
- Nutrition Science;
- Microbiome;
- Quantification and Standardization in Mass; Spectrometry;
- Chemical sensors.

Regions

Switzerland and Europe.

Partners

Agroscope; Agrovet-Strickhof; UZH Department of Gastroenterology and Hepatology; and aha! Swiss Allergy Centre.

Contact

ETH Zürich Analytical Chemistry HCI E 329 Vladimir-Prelog-Weg 1-5/10 8093 Zürich

https://zenobi.ethz.ch \rightarrow

Contribution to the WFSC

Our team focuses on the investigation of human exhaled breath in relation to nutrition and diet to understand the impact of nutrition on metabolism in real-time and in a non-invasive way. We carry out innovative research on nutrimetabolomics focusing on nutriexhalomics (e.g. determination of food intake biomarkers in human exhaled breath) facilitating the development of new, or improving the accuracy of existing, non-invasive medical diagnostic tests based on breath analysis. Our studies provide multidimensional analytical insights into the effects of nutrition on human health. We also work with tandem mass spectrometry for compound identification, develop methodologies for quantification and chemometric tools to handle and analyze high-dimensional data from balanced and unbalanced multifactorial data sets.



Prof. Renato Zenobi

