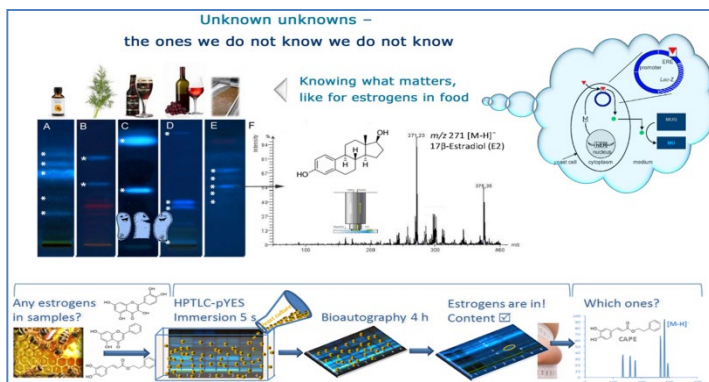


## “How to analyze unknown unknowns, the ones we do not know we do not know?”



**Prof. Dr. Gertrud Morlock** 

Justus Liebig University Giessen, Germany

**Date:** 5<sup>th</sup> November 2019 (Tuesday)

**Time:** 05:30 p.m.

**Venue:** Research Building Department „Life, Light & Matter“  
of the Interdisciplinary Faculty of the University of Rostock,  
seminar room 110, A.- Einstein-Str. 25, 18059 Rostock

### Abstract

More than ever, consumers are concerned about the food they consume. For example, for botanical extracts used in food products and food supplements, fraud is quite common. Product impairment is not only caused by natural variances or processing, but also by contaminations, residues, falsifications, adulterations, degradation products etc. along the global product chain. Among thousands of compounds in a food sample, only a minor portion is identified and for the major sample part, it is not known which components are bioactive and could impact health. Even trace level amounts of bioactive compounds matter, i.e. as known for endocrine disruptors.

An analytical technique that could deal with this delicate task should be matrix-tolerant and avoid a discrimination of ingredients and should provide a minimalistic sample preparation as well. So far, selected chemical marker compounds have been used to evaluate product quality, but these cannot represent the whole sample complexity. Bioprofiling or effect-directed fingerprints ensure much better the product quality and especially product safety along the global food chain. How straightforward imaging HPTLC hyphenations and its instrumental miniaturization can contribute to this daunting challenge is explained via examples given for plant extracts and functional food ingredients.

### Short CV

Gertrud Morlock is Chair of Food Science and full professor (W3) at the Justus Liebig University Giessen since 2012 ([www.uni-giessen.de/food](http://www.uni-giessen.de/food)). She is also the Director of the TransMIT Center for Effect-Directed Analysis. She is experienced in effect-directed analysis, quantitative surface scanning mass spectrometry and further hyphenations with mass spectrometry, open source systems, miniaturized planar chromatography (office chromatography), pattern recognition techniques, bioprofiling, analysis of food, botanicals, cosmetics, commodities, pharmaceutical formulations, environmental samples, trace analysis etc.

She studied Nutritional Science, graduated PhD in Chemistry under supervision of Prof. Dr. Helmut Jork and Prof. Dr. Heinz Engelhardt, University of Saarland, worked for globally leading industries for years, and in 2004, went back to academia. In 2008, she made her professorial thesis at the University of Hohenheim in Stuttgart. In 2010, she became außerplanmäßiger Professor at the Institute of Food Chemistry at Prof. Dr. Wolfgang Schwack. In 2009, she was awarded with the Kurt-Täufel-Preis des Jungen Wissenschaftlers of the German Society of Food Chemistry, in 2010 with the Highly Cited Author Award of the Journal of Chromatography A, and in 2018 with the Father of Stevia Award to mention few.

\*\*\*All interested are welcome\*\*\*

Link to presentation: <https://webconf.vc.dfn.de/rbthjymnclx4/>

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