

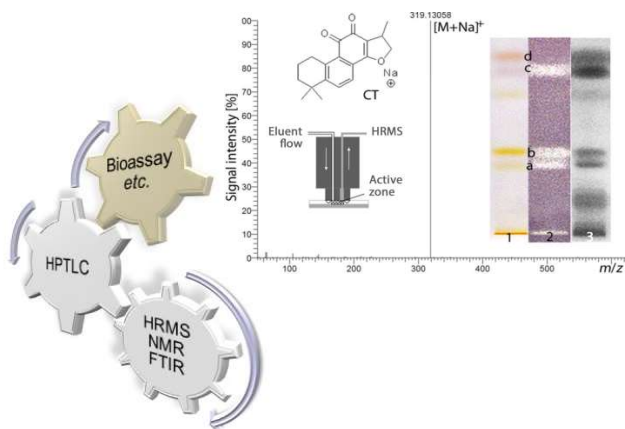


Modul

Effect-directed analysis by HPTLC-bioassay-HRMS

Prof. Dr. Gertrud Morlock

- Chromatography combined with assays
- Fast link to single bioactive compounds in complex samples
- Streamlined bioprofiling via biological and biochemical assays in the adsorbent bed
- High-performance thin-layer chromatography combined with effect-directed analysis and high resolution mass spectrometry (HPTLC-UV/Vis/FLD-EDA-HRMS)



FOOD SAFETY AUTHENTICITY RISK ASSESSMENT

PROGRAM

26.02. – 01.03.2020

09.00 Start
10.30 Coffee
12.30 Lunch
15.00 Coffee
17.00 End

Lectures: Prof. Dr. Gertrud Morlock

The 5-day practical course focuses on different assays. The full workflow HPTLC-UV/Vis/FLD-assay-ESI-HRMS or DART-MS is shown on each day.

WEDNESDAY

Gram-negative antimicrobials via *Aliivibrio fischeri* bioassay

THURSDAY

Gram-positive antimicrobials via *Bacillus subtilis* bioassay

FRIDAY

Hormone-effective compounds via planar yeast estrogen/androgen screen (pYES/pYAS)

Genotoxic compounds via SOS/umuC assay

SATURDAY

Enzyme inhibitors via cholinesterase/tyrosinase assay

SUNDAY

Enzyme inhibitors via α/β -glucosidase/amylase assay

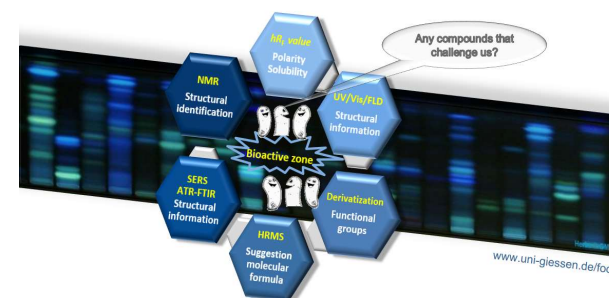
REGISTRATION

- Email to gertrud.morlock@uni-giessen.de
- Payment on receipt of invoice

RESPONSIBLE FOR MODULE



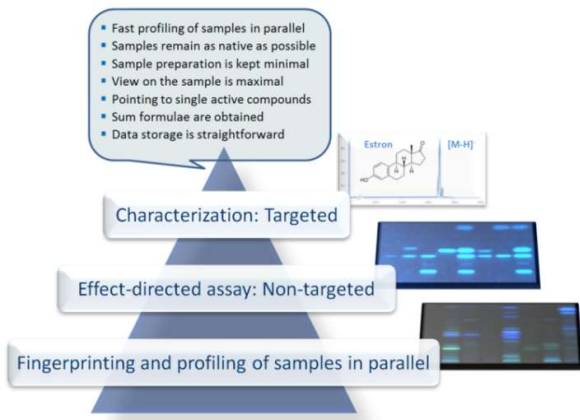
Justus Liebig University Giessen
Prof. Dr. Gertrud Morlock
Full Professor
Chair of Food Science



MODULE AIMS

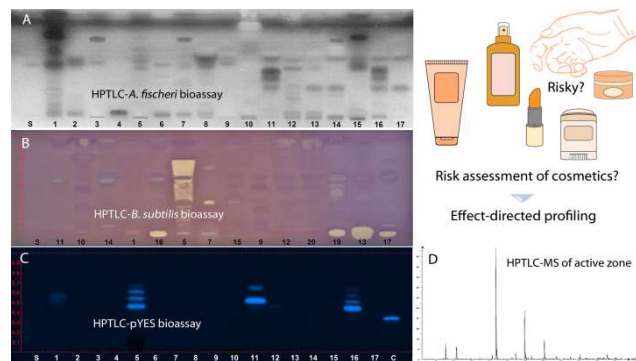
The participants

- Understand the meaning of effect-directed analysis as well as advantages and disadvantages of the different techniques
- Survey the variety of *in situ* assays (in the adsorbent bed)
- Experience fast effect-directed profilings (3-20 min/sample for 20 samples in parallel)
- Recognize the highly efficient combination of planar chromatography with biological and biochemical or other effect-directed assays
- Realize the power of hyphenated HPTLC
- Know the streamlined workflow on one plate, *i. e.* parallel separation of compounds in complex samples, discovery of active compounds and their characterization by chromatographic, spectroscopic and spectrometric information



“...we know there are **known knowns**.
 These are things we know that we know.
 We also know that there are **known unknowns**.
 That is to say, there are things
 that we know we do not know.
 But there are also **unknown unknowns** –
 the ones we do not know we do not know.”
Donald Rumsfeld, 2002

Let us find it out!



Source: Morlock, G.: Bioassays and further effect-directed detections in chromatography, in Worsfold P.J., Poole, C., Townshend, A., Miro, M. (Eds.): Reference Module in Encyclopedia of Analytical Science, 3rd edn. With permission from Elsevier Science, Amsterdam, 2019

FEE

500 € per day or 1500 € for 5 days

Included in fee:

- Course material on USB stick
- Lunch and coffee breaks
- Certificate on request

LOCATION



Justus Liebig University Giessen
 Interdisziplinäres Zentrum (IFZ)
 Department of Food Science
 Heinrich-Buff-Ring 26-32
 35392 Giessen
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www.uni-giessen.de/food



ROUTE TO US



At IFZ, take the **red entrance door** at Area A.
 Go to Area **D**, **1. floor**, Room **B 117** (next to elevator)

HOTELS NEAR BY

The participant is responsible for self-accomodation.

- Hotel Heyligenstaedt, Aulweg 41, 35392 Giessen
 Tel. +49 641 4609650
info@hotel-heyiligenstaedt.de
www.restaurant-heyiligenstaedt.de
- Giessener Bett, Westanlage 5, 35390 Gießen
- Appartement am Schloss, Landgraf-Philipp-Platz 9, 35390 Gießen
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Visit the working place of Justus Liebig:



Source: wikipedia.org