

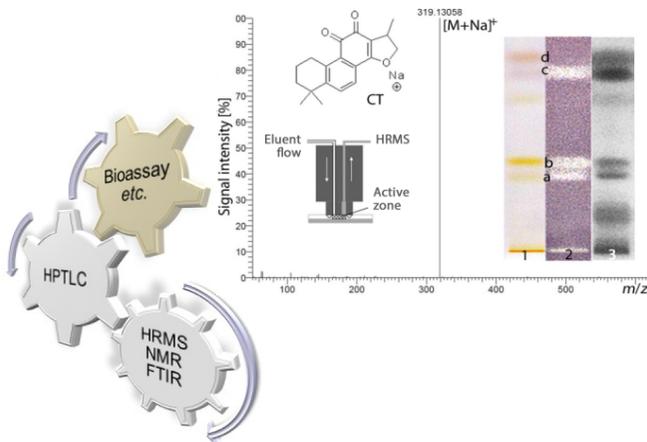
# Modul

## 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)



27.02. – 03.03.2019

GIESSEN, GERMANY

### PROGRAM

09.00 Start  
10.30 Coffee  
12.30 Lunch  
15.00 Coffee  
17.00 End

Lectures: Prof. Dr. Gertrud Morlock

Days focus on different assays and can be booked individually. 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

Tutor: Dr. Tim Häbe

### THURSDAY

Gram-positive antimicrobials via *Bacillus subtilis* bioassay

Tutor: Dr. Ines Klingelhöfer

### FRIDAY

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

Tutor: Daniel Meyer

### SATURDAY

Enzyme inhibitors via cholinesterase/tyrosinase assay

Tutor: Ebrahim Azadnia

### SUNDAY

Enzyme inhibitors via  $\alpha/\beta$ -glucosidase/amylase assay

Tutor: Maryam Jamshidi-Aidji

### 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 (5-15 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

### PARTICIPATION IN STUDENT MODULE

Max. 6 participants along with max. 12 students

## FEE

500 € for 1 day  
plus 20% reduction for each additional day  
(2 d: 900 €, 3 d: 1200 €, 4 d: 1400 €; 5 d: 1500 €)

Included in fee:

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

## REGISTRATION

1. Email to [gertrud.morlock@uni-giessen.de](mailto:gertrud.morlock@uni-giessen.de)
2. Payment on receipt of invoice

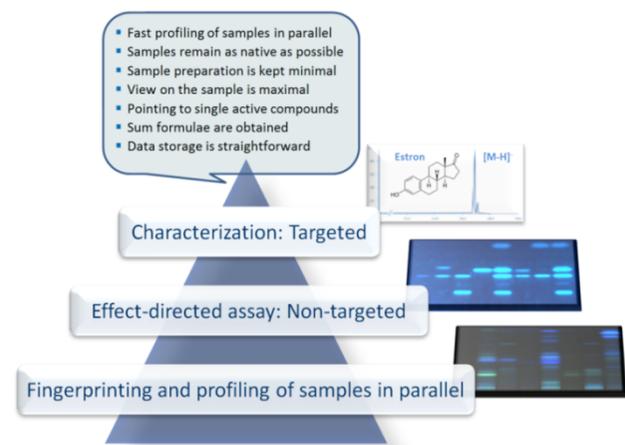


## LOCATION

Justus Liebig University Giessen  
Interdisciplinary Research Center (IFZ)  
Department of Food Science  
Heinrich-Buff-Ring 26-32  
35392 Giessen  
Germany  
Tel. +49 641 99 391 41  
[www.uni-giessen.de/food](http://www.uni-giessen.de/food)



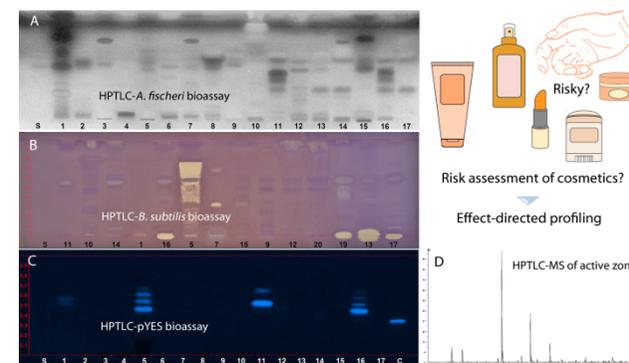
At IFZ, take the **red entrance door** at Area A.  
Go to Area D, 1. floor, Room B 117 (near elevator)



## HOTELS NEAR BY

The participant is responsible for self-accomodation.

- Hotel Heyligenstaedt, Aulweg 41, 35392 Giessen  
Tel. +49 641 4609650  
[info@hotel-heyligenstaedt.de](mailto:info@hotel-heyligenstaedt.de)  
[www.restaurant-heyligenstaedt.de](http://www.restaurant-heyligenstaedt.de)
- Hotel Alt-Giessen, Westanlage 30-32, 35390 Giessen, Tel. +49 641 96 26 150  
[rezeption@hotel-alt-giessen.de](mailto:rezeption@hotel-alt-giessen.de)  
[www.hotel-alt-giessen.de](http://www.hotel-alt-giessen.de)
- Gästehaus Wilhelma, Wilhelmstr. 3, 35392 Giessen, Tel. +49 641 79 26 65  
[info@gaestehaus-wilhelma.de](mailto:info@gaestehaus-wilhelma.de)  
[www.gaestehaus-wilhelma.de](http://www.gaestehaus-wilhelma.de)
- Hotel Kübel, Westanlage 20, 35390 Giessen  
Tel. +49 641 77 07 00, [info@hotel-kuebel.de](mailto:info@hotel-kuebel.de)  
[www.hotel-kuebel.de](http://www.hotel-kuebel.de)
- Tourist Information Giessen  
Tel. +49 641 306 18 90, [tourist@giessen.de](mailto:tourist@giessen.de)  
[www.giessen-tourismus.de](http://www.giessen-tourismus.de)



Figures: 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, 2018