

Young scientists honored

The next generation

Two Bachelor Students at the Chair of Food Science, Justus Liebig University Giessen, Germany, with excellent knowledge on HPTLC were decorated with awards for their theses by Elke Hahn-Deinstrop, author of the well-known book *Applied Thin-Layer Chromatography: Best Practice and Avoidance of Mistakes*, and by Dr. Heinz Hauck, who led the HPTLC research at Merck for more than 3 decades.



Awardee Sophie Arnold honored by Elke Hahn-Deinstrop

Sophie Arnold worked on the development of a quantitative trace analysis method for the analysis of androgenic and anti-androgenic substances migrating from food packaging into food. Together with the doctoral student Daniel Meyer, she exploited the newly developed planar yeast androgen/anti-androgen screen (pYAAS) [1]. It is a new concept that can be applied to any assay and detects agonist/antagonist activities at the same time. In order to apply the new HPTLC-pYAAS assay concept in trace analysis, she investigated different mobile phases, device settings and confounding factors like the impact of humidity and cell agglomeration. With regard to quantification, different programs and settings were investigated for the evaluation of negative peaks obtained by fluorescence measurement. She investigated also first parameters of method validation.



Awardee Mareike Schenk honored by Dr. Heinz Hauck

Mareike Schenk developed specific HPTLC metabolite profiles for characterization and identification of probiotic bacterial strains in complex samples like feed. Together with the doctoral student Stefanie Kruse, she had to identify differences in the metabolite profiles of the selected strains based on previous work [2]. The influence of cultivation parameters on the bacterial metabolite profile was investigated, including different culture media, cultivation times and oxygen levels. The impact of heat and ultrasound treatment on the HPTLC metabolite profiles was also studied. Different extraction solvents and HPTLC parameters were investigated to obtain specific metabolite profiles. Derivatization reagents were applied for the functional characterization of individual metabolites and their quantification via the standard addition method.

- [1] Klingelhöfer, I., Hockamp, N., Morlock, G.E., *Anal. Chim. Acta*, 1125 (2020) 288
- [2] Kruse, S., Pierre, F., Morlock, G.E., *J. Chromatogr. A*, 1640 (2021) 461929