Naturwissenschaftlich-Technische Fakultät

UNIVERSITÄT DES SAARLANDES

Der Vorsitzende des Promotionsausschusses

E I N L A D U N G

Hiermit lade ich ein zum öffentlichen Promotionskolloquium von

Herrn M.Sc. Lorenzo Bizzarri
Wirkstoffdesign und Optimierung
(Prof. Dr. Anna K. H. Hirsch)

am

Donnerstag, 27. Februar 2025, 14:00 Uhr s.t.
per Videokonferenz; Link für MS Teams: https://msteams.link/Z0A9
Raum für die Prüfung: HIPS, Gebäude E8.1, Raum 0.27.

Thema der Dissertation:

Quantitative Mass Spectrometry-Based (Chemo-)Proteomics for the Characterization of MEP Pathway Inhibitors

Major challenges in early drug discovery of novel anti-infectives are identifying protein targets, confirming target engagement, and assessing selectivity. This thesis applies quantitative mass spectrometry-based proteomics (LC-MS/MS) to investigate the 2-*C*-methyl-D-erythritol 4-phosphate (MEP) pathway in human key pathogens, including bacteria and an apicomplexan parasite. Initially, conventional chemoproteomics, which relies on chemically modified probes, was employed to characterize compound–protein interactions. To overcome limitations associated with probe design and synthesis, the biophysical and modification-free approach Integral Solvent-Induced Protein Precipitation (iSPP) was subsequently optimized and validated, enabling target engagement without chemical modifications. These strategies highlight the power of proteomics in advancing anti-infective drug discovery.

Saarbrücken, 13. Februar 2025

Prof. Dr. Uli Kazmaier
Vorsitzender des Promotionsausschusses