The group of

Dr. Ana Rita Brochado

At the Department of Microbiology, Biocenter at Würzburg University offers a

MSc project

Elucidating the genetic basis for conservation of drug-drug interactions
in bacteria

Bacteria are among the most difficult-to-treat infectious agents. Our recently established lab develops high-throughput approaches to study antimicrobial mode of action, and decipher how bacterial molecular networks re-wire in response to multi-antibiotic therapies. We have previously reported that, against all odds, antibiotic synergy and antagonism are highly species-specific (Brochado et al, Nature 2018). Nevertheless, synergy is more conserved than antagonism – which is attractive for clinical applications. The aim of this project is to find out which bacterial genes explain the observed conservation of drug interactions across bacteria.

As a starting point for this project, we already collected a large dataset of drug combinations across 4000 non-essential gene deletion mutants of E. coli. We are looking for a motivated MSc. student to analyze this exciting dataset. If you are studying biology/biochemistry/biomedicine or similar, and are keen on learning computational biology and data analysis, this is a perfect opportunity for you!

Visit us at https://www.biozentrum.uni-wuerzburg.de/en/mikrobio/staff/dr-ana-rita-brochado/ to find out more about our research!

Write us to brochado.recruit@biozentrum.uni-wuerzburg.de to apply.