

1. Mode of action studies of Antibiotics

We have recently published a number of highly visible studies (e.g., [Nature 2022](#), [Cell 2023](#), [Nature Microbiology 2024](#)) on **lipid-targeting antibiotics**. Several research lines on such antibiotics are ongoing, in which a MSc student could contribute - just ask!

2. Lipid – Drug Interactions

Specific interactions with membrane lipids are essential for the function of critical proteins such as ion channels or transporters. Moreover, lipids are important drug targets. Our team has spearheaded solid-state NMR approaches to study specific drug – lipid interactions and [protein – lipid interactions](#) at high resolution in complex membranes. **To this end, we have developed protocols that enable the isolation of specific ^{13}C -labelled lipids from bacterial membranes.**

In this MSc project, the student builds up on an approach to isolate specific lipids that will afterwards be used to study interactions with drugs and/or proteins.

Some of the methods that you will learn in this project:

- *Lipid Biochemistry*
- *TLC*
- *HPLC*
- *Solution NMR*
- *Solid-state NMR*

Contact: m.h.weingarth@uu.nl

