PhD position Exploring Bacterial Cytological Profiling to find novel antibiotic leads

Closing	15 maart 2020
Organisational unit	University of Amsterdam, Swammerdam Institute for Life Sciences (SILS)
Level of education	Master's degree
Scope of work	38 hours per week
Salary indication	€ 2.325 to € 2.972 (scale P) gross per month based on 38 hours per week.

Antibiotic resistance is a major threat in human societies and will stay with us as long as we use antibiotics. The search for new antibiotic lead compounds is a cumbersome process. Natural compounds, e.g. metabolites produced by fungi, are a rich source of antibacterial activities. However, they are typically found in complex chemical mixtures, which makes it difficult to identify the most relevant activities. We have developed a novel method, called bacterial cytological profiling, that greatly facilitates this process.

We are seeking a PhD candidate to (i) develop bacterial cytological profiling for the screening of a unique fungal extract library provided by the Westerdijk Fungal Biodiversity Institute located in Utrecht, and (ii) to investigate the antibacterial mode of action of novel fungal compounds.

This collaboration between the University of Amsterdam and the Westerdijk Institute is expected to identify novel antibacterial compounds of fungal origin with potentially new modes of action. Considering the lack of antibiotic discovery and development, this project will provide a significant contribution to the search for the next generation of antibiotics that are active against resistant pathogens. The project is funded by ZonMw.

What are you going to do?

- To develop bacterial cytological profiling for high-throughput screening of complex natural extracts for antibiotic lead compounds
- To isolate novel compounds from fungal extracts
- To determine the antibacterial working mechanism (mode of action) of novel fungal compound using a wide variety of techniques including RNA-seq, cell biology studies, resistance development, precursor incorporation studies
- To supervise bachelor and master students
- To communicate scientific results in conferences and international peer-review journals

What do we require?

- **A** MSc in Biology or Biochemistry
- Good experience with molecular microbiology tools
- Good experience with growing microorganisms
- Affinity with microbiology
- Fluency in English, both written and spoken

Questions? Do you have questions about this vacancy? Or do you want to know more about our organisation? Please contact: Prof. Leendert Hamoen (l.w.hamoen@uva.nl) at the University of Amsterdam or Dr. Jérôme Collemare (j.collemare@wi.knaw.nl) at the Westerdijk Institute.

Application Does you recognize yourself in the job profile? Then we look forward to receiving your CV, cover letter and two names and email addresses of academic referees before 15 March 2020.