Stockholm University

Ref nr: SU-465-0161-25
Datum: 2025-10-06

Postdoctoral fellowship in antibiotic-drug interactions with a focus on characterizing antibiotic adjuvants and their mechanism of action

at the Department of Molecular Biosciences, The Wenner-Gren Institute, Stockholm University.

Reference number: SU-465-0161-25

Deadline for applications: October 31, 2025

Stockholm University is a leading European university offering a multicultural environment in one of the world's most dynamic capital cities. With more than 60,000 students and 5,000 staff, the University facilitates individual and societal development by providing top quality education that is tightly linked to its internationally recognized research programs.

Research at the Department of Molecular Biosciences, The Wenner-Gren Institute (MBW) experimentally addresses fundamental problems in molecular cell biology, integrative biology, and infection and immunobiology. State-of-the art and advanced methodologies are applied in a professional research environment characterized by its well-established international profile. The institute has 30 research groups with a research staff of 200, of which 65 are PhD students. Read more about MBW at www.su.se/mbw.

Project description

Many non-antibiotic pharmaceutical drugs are known to alter bacterial physiology and influence the efficacy of clinically important antibiotics. This research project aims to identify novel antibiotic-drug interactions and determine their underlying molecular mechanisms to both enhance the efficacy of known antibiotics and to minimize unexpected treatment failures. The successful candidate will use a combinatorial screening approach to systematically evaluate the inhibitory effect of several different clinically important antibiotics when co-administered with a curated library of more than 500 pharmaceutical drugs with chemical properties likely to influence antibiotic activity. The molecular mechanisms behind these novel antibiotic–drug interactions, as well as any potential *de novo* bacterial resistance and/or tolerance mechanisms, will be elucidated using forward genetic screens, whole-genome sequencing (WGS), random mutagenesis and knock-out experiments.

Assessment criteria

- Experience working with bacterial pathogens belonging to the ESKAPEE group is especially meritorious.
- Experience with next-generation sequencing (NGS) and whole-genome single-nucleotide polymorphism (SNP) genotyping is especially meritorious.
- Experience with small-molecule drug screens is meritorious.
- Experience with antibiotic resistance and/or tolerance assays is meritorious.

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Qualification requirements
The successful candidate must have received a doctoral degree from an accredited college/university outside of Sweden. The degree should have been completed no more than five years before the application date (i.e., five years before the deadline of the application). An older degree may be acceptable under special circumstances, which may involve sick leave, parental leave, clinical attachment, elected positions in trade unions, or similar. The successful candidate must also not have resided in Sweden for more than nine months prior to the application date.

Terms of the fellowship
The terms of the fellowship are regulated by the Wenner-Gren Foundations. The fellowship is awarded as a tax-free stipend of 30 000 SEK/month and covers 2 years of full-time postdoctoral studies. A half-time report must be submitted after 12 months and a final report no later than three months after the end of the fellowship period. Starting date for the fellowship is per agreement, but no later than March 1, 2026.

Additional information
Further information about the research project and the conditions of this postdoctoral fellowship can be obtained from Dr. Marcus Wäneskog, marcus.waneskog@su.se.

Application
Applications should be marked with the reference **SU-465-0161-25** and submitted electronically **as a single PDF file**. The PDF should be sent to the following addresses:

- marcus.waneskog@su.se

The application deadline is October 31, 2025.

The application should comprise of the following parts:

1) Complete CV, including full contact information, date of birth, education and the title of the candidates PhD thesis.
2) List of publications.
3) Personal statement describing research interests and previous research experiences (maximum 1-2 A4-pages).
4) Please also provide the names, e-mail addresses and telephone numbers of 1-2 references.