

**Call:** 6<sup>th</sup> transnational call for the JPIAMR within the ERA-NET JPI-EC-AMR:  
Innovations against antibiotic-resistant bacteria: New targets, compounds and tools

**Title:** Fighting antimicrobial resistant infections by high-throughput discovery of biofilm-disrupting agents and mechanisms

**Acronym:** DISRUPT

#### Consortium composition

Type	Name	Institute	Country
Coordinator	Morten Kjos	Norwegian University of Life Sciences	Norway
Partner	Jan-Willem Veening	University of Lausanne	Switzerland
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#### Abstract

Many bacterial infections are associated with biofilms. Biofilm-related infections, particularly those caused by drug resistant bacteria, are difficult to handle with current antibiotic strategies. These includes wound-infections (e.g. caused by *Pseudomonas aeruginosa* or *Staphylococcus aureus*), urinary tract infections (e.g. *Escherichia coli*), chronic airway infections (e.g. *P. aeruginosa*) and pre-infection colonisation by *Streptococcus pneumoniae*. New strategies and compounds to fight such resilient infections are imperative; however, the full repertoire of genes and processes that are essential for biofilm formation in different microbes is unknown. In this project, we aim to provide new tools, targets and agents for understanding and treating biofilm-associated infections in four major AMR pathogens (*P. aeruginosa*, UPEC, *S. aureus* and *S. pneumoniae*). To achieve this, we have assembled an interdisciplinary team with diverse expertise in microbial genetics and genomics, high-throughput screening and antibiotics/antibody research. Our project involves a combination of state-of-the-art genetic approaches to construct genome-wide tools with automated biofilm-phenotyping and high-throughput screening for anti-biofilm antibodies and chemicals. Finally, we will characterise the mechanism of action of novel anti-biofilm agents.