

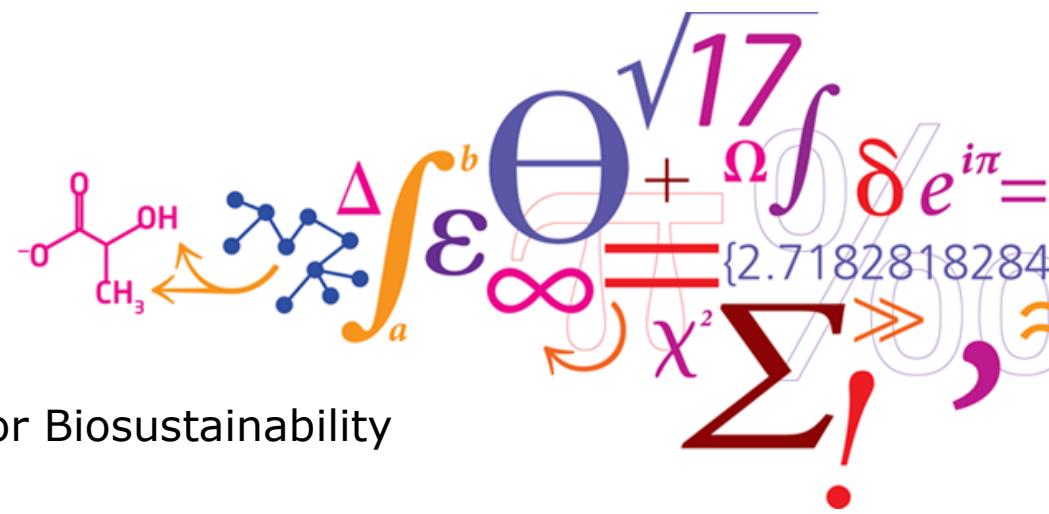
Fighting Superbugs with Open Source Software

Bioinformatics Open Source Conference 2017

Kai Blin

New Bioactive Compounds Section

Novo Nordisk Foundation Center for Biosustainability



ORCID: 0000-0003-3764-6051

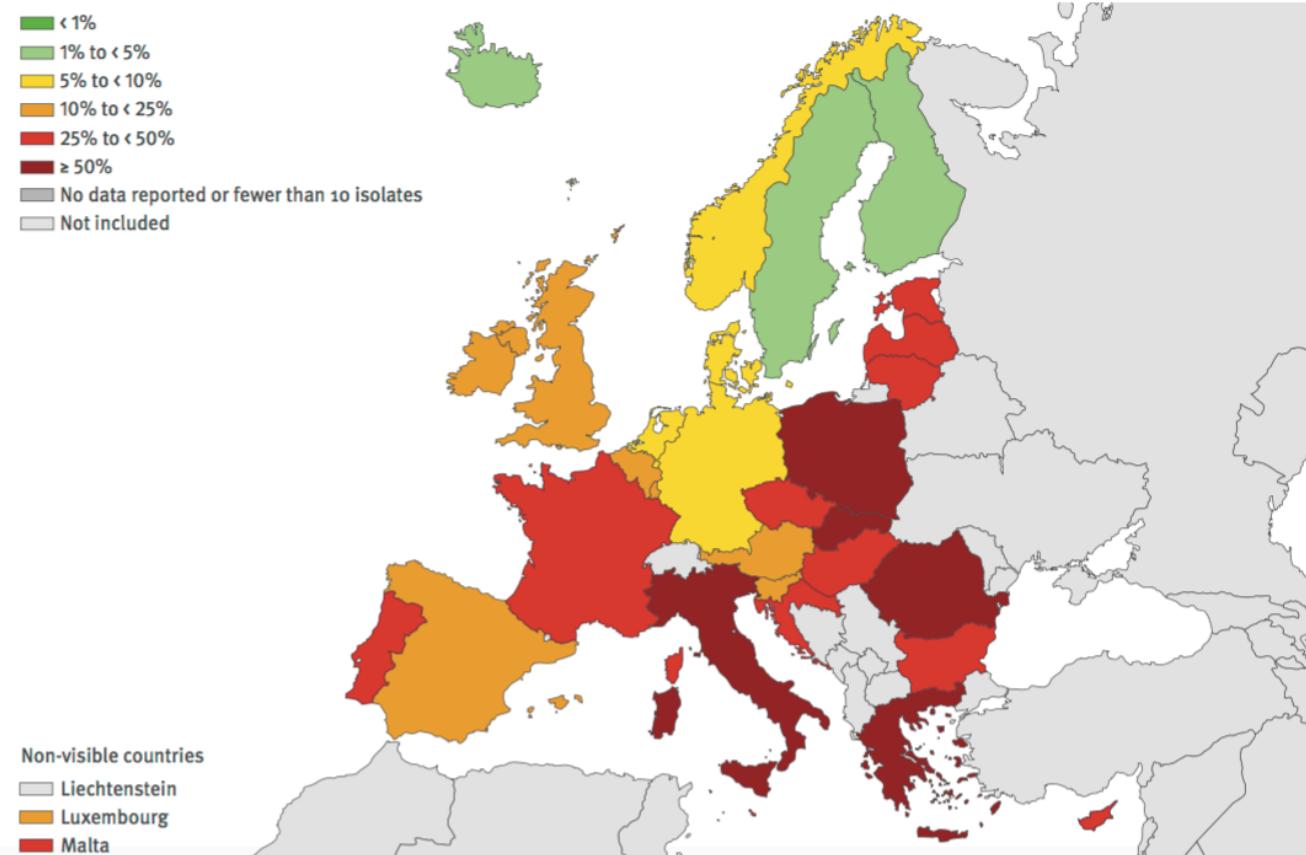
Twitter: @kaiblin



DTU Biosustain

The Novo Nordisk Foundation Center for Biosustainability

Superbugs



Source: ECDC report Antimicrobial resistance surveillance in Europe 2015

Superbugs

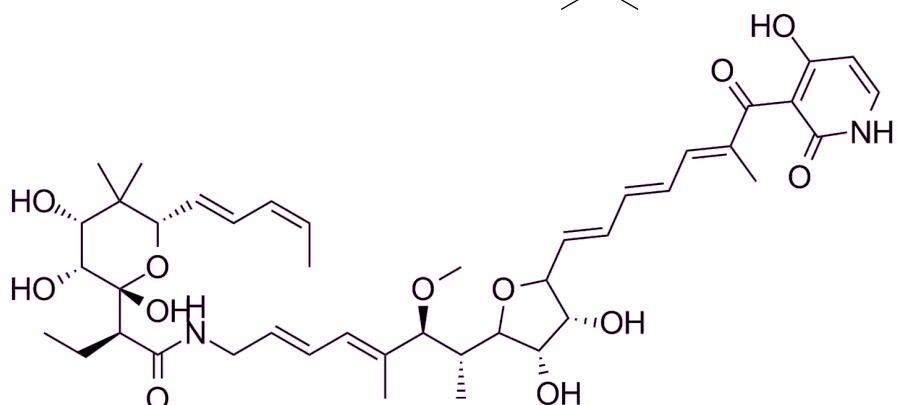
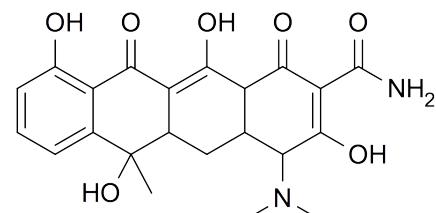
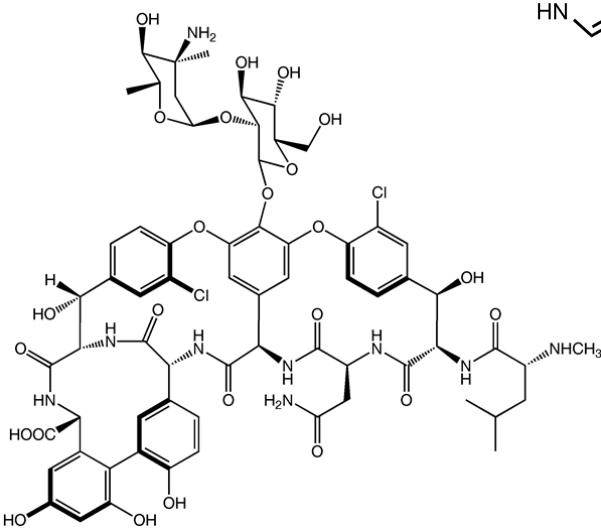
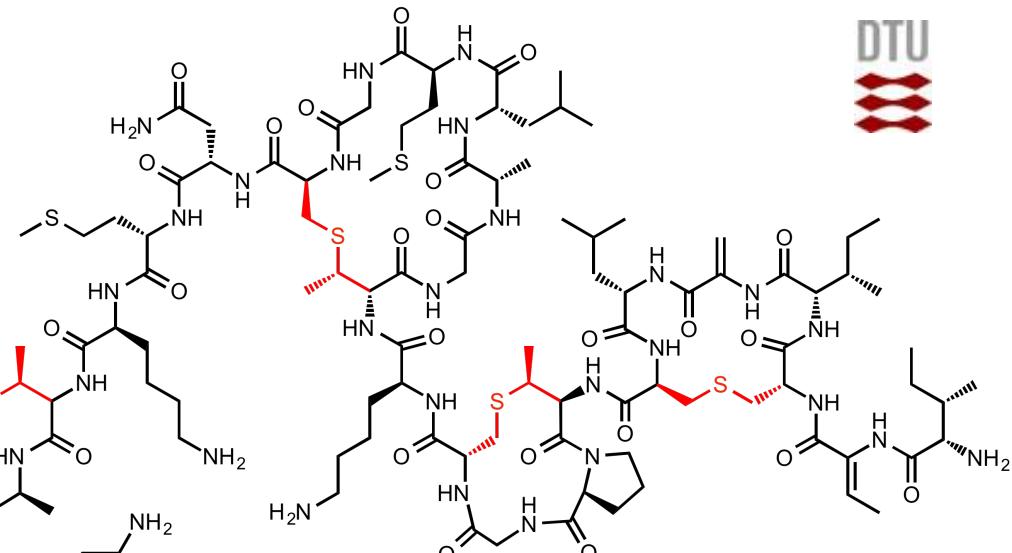
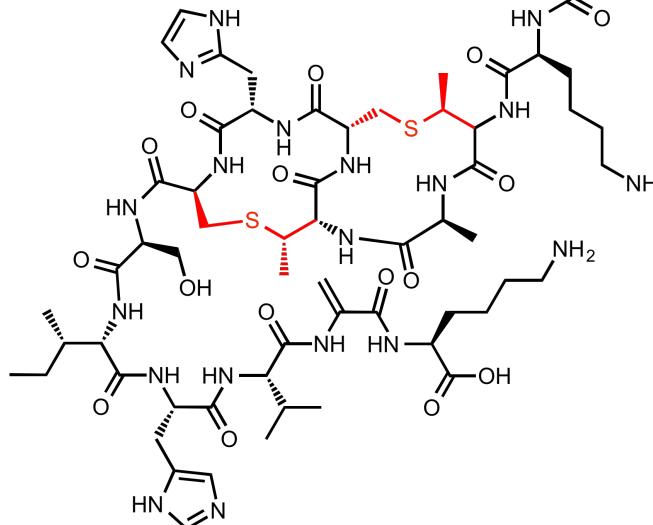
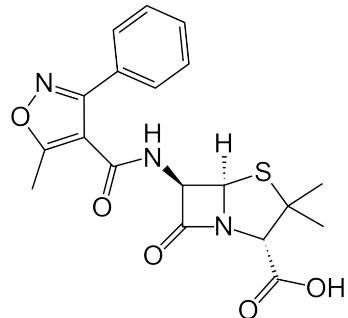


Bacteria to the Rescue!

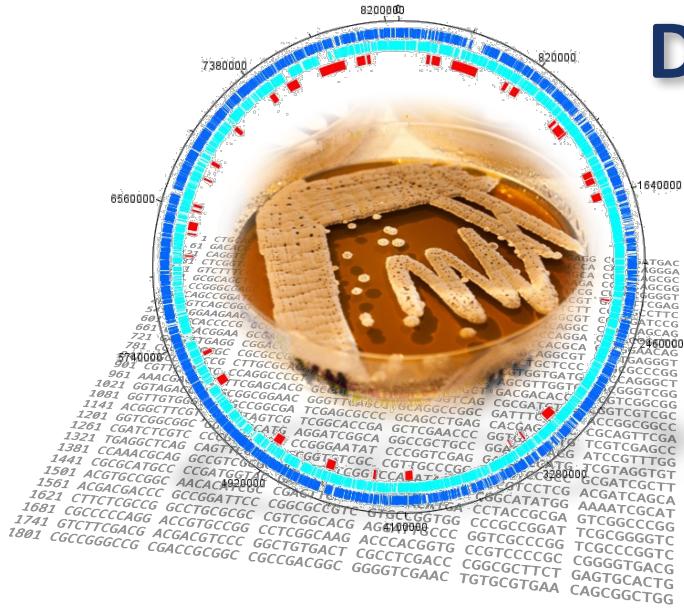


Source: Gallery from HPFiedler-group.de

Natural Products

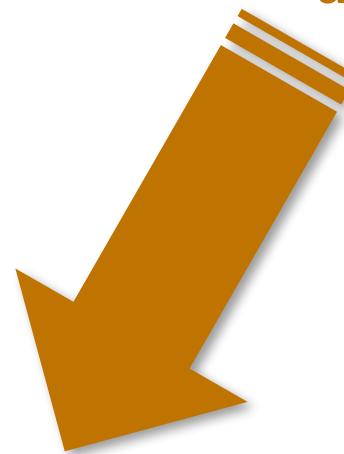
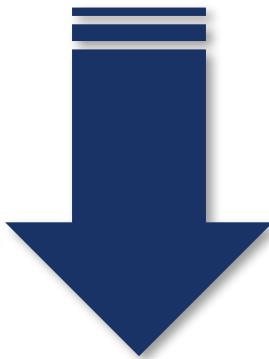


Rationale



DNA sequence

analytical/chemical
data



Resource for the identification
of novel antibiotics

diamond
fasttree
glimmer
GlimmerHMM
HMMer (2&3)
mafft
meme
muscle
NCBI blast+
prodigal
libxml
libxz
jquery
bootstrap



<http://antismash.secondarymetabolites.org>
<https://bitbucket.org/antismash/antismash>

Python
pyquery
numpy
Biopython
pysvg
pyExcelerator
backports.izma
bcbio-gff
ete2
networkx
pandas
matplotlib
scipy
scikit-learn



Collaborators & Funding

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Sang Yup Lee

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Hans-Peter Fiedler

Marnix Medema

The antiSMASH contributors

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Novo Nordisk Foundation
Center for Biosustainability



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SMASH

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