ProkaOmics – Functional "Omics" of Prokaryotes: Genomics (plus transcriptomics and proteomics)

Organizer:

Tobias Goris, Department of Applied and Ecological Microbiology

Theme of the workshop:

This 2-day workshop is addressed to novices in "Omics" studies of prokaryotes. The focus will be on bacterial genomics (see topics).

Participants will lay hands on assembly and annotation strategies with data on their own. The necessary data of environmentally relevant bacterial species (e.g. *Sulfurospirillum* spp.) will be handed out in the course. Due to time constraints, handling of data brought by participants will not be possible. Participants do not need to have any knowledge in programming or bioinformatics, command lines or linux, the course will be Windows-based. While this course will include some command lines, deeper bioinformatic issues are beyond the scope of the course.

If there is enough time left, we will deal with the basics of transcriptomics (RNA sequencing) and proteomics at the end of the second day. Additionally, this course will cover publication strategies in prokaryotic Omics.

Topics:

- How to handle genomes: genome browsers and databases
- Next generation sequencing: pros and cons of different sequencing technologies (e.g. Illumina Hi/MiSeq, IonTorrent, 454, PacBio)
- From sequencing to genomes: Sequencing formats and how to assemble and annotate genomes
- Completion and manual curation of genomes: blast and sequence comparison and comparative and functional genomics.
- Optional: Transcriptomics – RNA sequencing, application and methods
- Optional: Proteomics – Concepts and data analysis

Meeting Point:

Room 216 in the Multimedia Center, northern entrance of the FSU Campus, at 10 am, October 10, 2016

The number of participants will be limited to 6 in order to assure a workshop environment conducive to “hand to hand” exercises. Students only need a basic background in *Microbiology*.

Date and Time

October 10, 2016 - October 11, 2016

Location

Location: Multimedia Center FSU, Room 216

Leader

Gabriele Diekert