Course announcement

Bioinformatics tutorials

for PhD students of the IRTG of the CRC Roseobacter, RTG "EcoMol", and PhD students of the Graduate School for Science and Technology

Time: 10:00-12:00
Location: ICBM W15 0-027
Language: English
Credit points: 0,5
Registration: **StudIP: liliana.cristina.moraru@uni-oldenburg.de**
Lecturer: Dr. Liliana Cristina Moraru
Module: olt403 "Special techniques in "Environmental Sciences and Biodiversity"
Participants: minimum of 8 / maximum of 12

Course content: Nucleic acid and protein sequencing and analysis are well established techniques in microbiology and microbial ecology, with the rapid pace of technical advancements allowing them to become increasingly present in the everyday lab experience.

This course teaches analysis methods for data generated by high-throughput, next generation sequencing technologies, as for example Illumina and PacBio. While the focus will be on methods used in virology and viral ecology, the course is addressing a wider audience, because most of the topics cover general sequence analysis principles, as for example: read quality trimming and quality check, read mapping, contig assembly and binning, prediction of open reading frames and functional annotation on proteins, genome annotation, protein clustering, taxonomic affiliation, etc.. During the course, the students will be trained in the use of the Bioinformatics platform of ICBM (http://kronos.icbm.uni-oldenburg.de/shiny/Bioinformatics_platform_ICBM/), which includes access to ICBM servers and to the University of Oldenburg High Performance Computing Cluster.

Sequence analysis requires knowledge of a programming language, with R being one of the programming languages most used for this purpose. Therefore, during this course the students will learn how to use R to create sequence analysis pipelines, integrate the output and inputs of various bioinformatics tools and write their own data analysis scripts.

Tutorial dates 2018:

Date	Week day
12.01.2018	Friday
19.01.2018	Friday
26.01.2018	Friday
02.02.2018	Friday
09.02.2018	Friday
16.02.2018	Friday
23.02.2018	Friday
02.03.2018	Friday
09.03.2018	Friday
16.03.2018	Friday
23.03.2018	Friday

Date	Week day
29.03.2018	Thursday
06.04.2018	Friday
13.04.2018	Friday
20.04.2018	Friday
27.04.2018	Friday
04.05.2018	Friday
07.05.2018	Monday
18.05.2018	Friday
25.05.2018	Friday