



Comenius University in Bratislava
Faculty of Mathematics, Physics and Informatics

THESIS ASSIGNMENT

Name and Surname: Andrej Baláž
Study programme: Bioinformatics (Joint degree study, bachelor I. deg., full time form)
Field of Study: Computer Science, Informatics
Biology
Type of Thesis: Bachelor's thesis
Language of Thesis: English
Secondary language: Slovak

Title: Sequence based classification of bacteriophages

Annotation: Bacteriophages are viral organisms that infect and replicate inside bacterial organisms. Since they are highly specific to a particular strains of bacteria, their presence in biological samples may identify the exact form of bacterial infection and thus lead to a more precise diagnosis for a targeted treatment. The main complication in routine diagnosis is unclear understanding of underlying mechanisms behind their function.

Aim: The goal of the thesis would be to discover relationship between functional components of bacteriophage sequence and its potential host. Student would prepare a database of known bacteriophages and their hosts. He would identify their functional elements and cluster them according to genomic sequence similarities. He would propose a classification method based on components that are highly enriched in bacteriophages of specific hosts.

Supervisor: Mgr. Jaroslav Budiš
Department: FMFI.KI - Department of Computer Science
Head of department: prof. RNDr. Martin Škoviera, PhD.

Assigned: 24.10.2017

Approved: 25.10.2017 doc. Mgr. Bronislava Brejová, PhD.
Guarantor of Study Programme

Student

Supervisor